

**Georges Bank Cod Hook Sector
Fishing Year 2006-2007
Operations Plan and Agreement**

This OPERATIONS PLAN AND AGREEMENT (this "Agreement") is entered into as of this 1st day of March, 2006 by and among the permit owners listed on the signature pages hereto and any other permit owners that are admitted pursuant to the terms of this Agreement (each, a "Member" and, collectively, the "Members").

RECITALS

WHEREAS, Amendment 13 to the Northeast Multispecies Fishery Management Plan (such amendment shall hereinafter be referred to as "Amendment 13") and the plan shall be referred to as the "Plan") authorized a sector for Georges Bank ("GB") cod hook fishermen and authorized the Regional Administrator of the National Marine Fisheries Service ("NMFS") to (i) approve a proposal for the formation of such sector, (ii) approve a legally binding operations plan and (iii) allocate a percentage of the total allowable catch of GB cod to such sector;

WHEREAS, On July 17, 2004, the Members formed a fishery sector through Georges Bank Hook Sector Inc. (the "Sector"), for the purposes of establishing a legally responsible entity (i) to obtain an aggregate sector allocation of GB cod from NMFS, as authorized by Amendment 13, and to sub-allocate such aggregate sector allocation among the Members and/or their permits and vessels, (ii) to participate in Special Access Programs ("SAPs") in closed areas to the extent that such SAPs are available to the Sector and (iii) to take such actions as may be necessary to ensure that the Sector, its Members and their vessels conduct groundfish harvesting activities in compliance with the Plan, Amendment 13, the Magnuson-Stevens Fishery Conservation and Management Act (the "Act") and applicable regulations promulgated by NMFS;

WHEREAS, in connection with the formation of the Sector, the Members entered into that certain Operations Plan and Agreement, dated as of June 1st, 2004 (the "Original Agreement");

WHEREAS, the Members entered into Amendment No. 1 to the Original Agreement, dated February 20th, 2005, to make certain changes relating to the term of the Original Agreement and the Members' commitment to the Sector, to admit certain additional members to the Sector, and to make certain other adjustments to the Original Agreement;

WHEREAS, on February 20th, 2005, the Members entered into that certain Amendment No. 2 to the Original Agreement, as previously amended (the Original Agreement, together with Amendment No.1 and Amendment No. 2 thereto, the "Amended Agreement"), to make certain changes to account for a

Framework Adjustment applicable to the Sector; and

WHEREAS, the Members desire to amend and restate the Amended Agreement to make certain adjustments thereto and to the Members' obligations thereunder, in order to account for the circumstances of the 2006 fishing year.

NOW, THEREFORE, in consideration of the mutual agreements, covenants, rights and obligations set forth in this Agreement, the benefits to be derived therefrom and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto, intending to be legally bound hereby, agree as follows:

Article I. Representations and Warranties of the Members. As of the date hereof, each of the Members represents and warrants to the other Members and the Sector that:

Section 1.01 Eligibility. Each Member has been issued a limited access multispecies permit, which (i) is based on a documented hook landing or, if Framework 40B is approved by NMFS, a documented landing of GB cod between May 1, 1996, and April 30, 2002, which are the 1996 through 2001 fishing years (such period of time shall hereinafter be referred to as the "Qualifying Period"), (ii) is related to a minimum of 5,000 pounds of regulated species landings in the baseline year during the Qualifying Period and (iii) has received an allocation of "A" or "B" Days-At-Sea ("DAS") from NMFS under Amendment 13 for the [2004] fishing year. Each such permit, which meets the criteria set forth in the foregoing sentence and which the Member intends to enroll in the Sector, is listed below such Member's name on the signature pages hereto (each, a "Permit"). Further, each Member has assigned its Permit to a Participating Vessel, which is listed below such Member's name on the signature pages hereto along with the corresponding Permit. Notwithstanding the list of Participating Vessels set forth on the signature pages hereto, for purposes of this Agreement, "Participating Vessel" shall mean the vessel to which a Member's Permit applies at any given time.

Section 1.02 Organization and Authority. Each Member (i) to the extent that it is an entity, is duly organized, validly existing and in good standing in its state of organization and (ii) has all authority, corporate or otherwise, to enter into this Agreement on its own behalf and on behalf of the Participating Vessels that it represents. This Agreement constitutes a legally valid and binding obligation of each Member, enforceable against such Member in accordance with its terms. Each of the Members represents that its Participating Vessel(s) and Permit(s) have no sanctions or other restrictions against them that would prevent such Participating Vessels and Permits from enrolling in the Sector and/or complying with the terms of this Agreement.

Article II. Membership

Section 2.01 Voluntary Membership. Participation in the Sector is completely voluntary among the Members, their Permits and the related

Participating Vessels.

Section 2.02 Scope of Membership Obligations. The obligations of the Members set forth in this Agreement shall only apply to the Permits and Participating Vessels (and not to any other permits or vessels owned by the Members that are not enrolled in the Sector pursuant to the terms hereof) to the extent that such Permits or Participating Vessels are fishing commercially (i) in the Area (as hereinafter defined) and (ii) with gear that is capable of harvesting GB cod or other groundfish species managed under the Plan. Notwithstanding the foregoing, the Members acknowledge and agree that the Sector and its Members may, from time to time, be permitted to participate in certain Special Access Programs (each an “SAP”) and that it may be necessary to expand the scope of the membership obligations hereunder, in order to ensure that the Sector and its Members are in compliance with the rules, regulations, and legislative intent relating to each such SAP. Therefore, the Members hereby agree to execute any amendments or supplements to this Agreement **subject to the approval of NMFS**, which may reasonably be requested by the Sector or the Sector Manager in order to comply with the rules, regulations, or legislative intent relating to any such SAP, including, without limitation, any amendments or supplements that expand the scope of the membership obligations hereunder to apply to vessels and/or permits that are not enrolled in the Sector.

Section 2.03 Length of Commitment. Each Member hereby agrees to cause each of its Permits and the related Participating Vessels to remain enrolled in the Sector for a period of three full fishing years following the date on which such Member enrolled in the Sector (the “Commitment Period”); provided, however, that if NMFS shall not approve the Sector’s Operations Plan and Agreement, as the same may be amended, for any fishing year during a Member’s Commitment Period, then the obligation of such Member under this Section 2.03 shall terminate on the last day of the last fishing year for which the Sector’s Operation Plan and Agreement shall have received approval from NMFS. Each Member further agrees that if its Permit leaves the Sector for any reason during the Commitment Period, (i) such Member shall be subject to the penalty or penalties described on the Schedule of Penalties (as hereinafter defined) and (ii) such Member, its Permit and the related Participating Vessel shall be ineligible to participate in the Sector for a period of five (5) years following the date of such departure from the Sector. Each Member acknowledges and agrees that 50 CFR Part 648.87 requires that each of its Permits and the related Participating Vessels must remain in the Sector for the entire fishing year in which such Permits and/or Participating Vessels are enrolled in the Sector, and that each Member’s Participating Vessels may not fish outside the Sector under a multispecies DAS program during any fishing year in which its Permits and/or Participating Vessels are enrolled in the Sector. Notwithstanding anything to the contrary in this Section 2.03, no Member shall be prohibited from making a substitution of an enrolled Permit or Participating Vessel pursuant to Section 2.07 hereof.

Section 2.04 New Members. The owner of a permit that is eligible under the criteria set forth in Section 1.01 hereto, but that is not enrolled as a

Member (and/or whose permit is not so enrolled) may apply to the Board (as hereinafter defined) for membership in the Sector. Such application shall be made in writing no later than 120 calendar days prior to the first day of the fishing year for which the applicant seeks to be included as a Member (and/or seeks to have its permit included as a Permit) and shall include evidence of eligibility. The Board shall, in its reasonable discretion, determine whether the applicant shall be admitted as a Member of the Sector and/or its permit included as a Permit. Notwithstanding the foregoing, (i) no such admission shall be effective until such new Member has agreed in writing to be bound by, and to cause its Permit and Participating Vessel to comply with, the terms of this Agreement, and until the provisions of this Agreement shall have been amended or modified to reflect such additional Member, Permit and/or Participating Vessel and (ii) the Board shall not admit any applicant whose fishing history would cause the aggregate fishing history of all of the Members of the Sector (inclusive of such applicant's fishing history) to exceed the maximum percentage of the GB cod total allowable catch authorized to be allocated under the Plan or Amendment 13 to the Sector for the fishing year in which the applicant seeks to be admitted.

Section 2.05 Permit Transfers. Each Member agrees that so long as it is a party to this Agreement, such Member (i) shall not have the authority to sell, lease or transfer the ownership of its Permit to a party that is not or does not agree in writing to be bound by this Agreement for the remainder of the fishing year in which such sale, lease or transfer is to occur and (ii) shall not transfer, lease or assign any DAS allocated to its Permit by NMFS to any non-Sector permit. To the extent that a Member sells, leases or transfers its Permit to another party (for the purposes of this Section 2.05, a "Transferee") in compliance with the foregoing sentence, then (a) such Transferee shall only be permitted to participate in the Sector for the remainder of the fishing year in which the transfer occurred (the "Transfer Year") and (b) prior to the commencement of the fishing year immediately following the Transfer Year, the Transferee must apply for admission to the Sector pursuant to the provisions of Section 2.04 hereof in order to be admitted to the Sector as a Member.

Section 2.06 Membership Dues. The Sector may, to the extent necessary for the payment of the costs and expenses associated with the administration and management of the Sector (including the payment of the Manager's salary), require the payment by the Members of annual membership dues and/or poundage fees. Such annual membership dues and/or poundage fees shall be fixed by resolution of the Board prior to the commencement of the applicable fishing year or at such other time as the Board may deem necessary or appropriate.

Section 2.07. Substitutions. Notwithstanding anything to the contrary in this Agreement, including, specifically, Section 2.03 hereof, prior to the commencement of any upcoming fishing year during a Member's Commitment Period, a Member may seek to substitute its existing Permit and the related Participating Vessel with another permit that meets the eligibility requirements set forth in Section 1.01 hereof ("Substituted Permit") and such Substituted Permit's related vessel ("Substituted Vessel"). Such application shall be made

in writing no later than 120 calendar days prior to the first day of the fishing year for which the applicant seeks to substitute its Permit and Participating Vessel with the Substituted Permit and Substituted Vessel, and shall include evidence of the Substituted Permit's eligibility. The Board shall, in its reasonable discretion, determine whether the substitution shall be permitted; provided, that the Board shall not permit any substitution that would cause the aggregate fishing history of all of the Members of the Sector (inclusive of the Substituted Permit's fishing history) to exceed the maximum percentage of the GB cod total allowable catch authorized to be allocated under the Plan or Amendment 13 to the Sector for the fishing year in which the substitution is to occur. If the Board shall have approved the substitution, then the Substituted Permit and Substituted Vessel shall, as of the first day of the fishing year for which the substitution has been approved, be considered such Member's "Permit" and "Participating Vessel" hereunder, subject to all of the terms and conditions of this Agreement, as the same may be amended. By seeking such substitution, a Member hereby agrees to cause its Substituted Permit and Substituted Vessel to comply with the terms and conditions of this Agreement, as the same may be amended.

Article III. ADMINISTRATION

Section 3.01 Sector Manager. The Board of Directors (the "Board") of the Sector shall appoint a manager of the Sector (the "Manager"), which Manager shall have the authority to manage the day-to-day business of the Sector and to act as its designated agent for service of process.

Section 3.02 Manager Authority. The Manager shall have the authority (i) to monitor the activities of the Members and the Participating Vessels and to take such other actions as may be necessary to ensure compliance by the Members and their Permits and Participating Vessels with this Agreement and other Sector requirements as may be adopted under the terms of this Agreement or the Sector's Bylaws, as well as applicable laws, rules and regulations, and (ii) subject to the authority of the Board or a committee delegated thereby pursuant to Section 3.03 of this Agreement, the Sector's Bylaws or any other agreement relating to the Sector's internal governance, to enforce this Agreement, including specifically, without limitation, the authority to impose penalties set forth in the Schedule of Penalties (as hereinafter defined). The Manager shall also act as the liaison between NMFS and the Sector.

Section 3.03 Infractions Committee. The Board shall appoint an infractions committee (the "Committee") to ensure fair, consistent and appropriate enforcement of this Agreement, the Harvesting Rules, the DAS (as hereinafter defined) requirements set forth on Exhibit B hereto, the Plan and other Sector requirements as may be adopted under the terms of this Agreement or the Sector's Bylaws. The Committee shall annually prepare and recommend to the Board for its approval a schedule of penalties, which shall be similar in form to Exhibit A hereto (the "Schedule of Penalties"), for any unauthorized fishing activities (whether under applicable laws, rules and regulations or otherwise) and for violations of this Agreement, the Harvesting

Rules, the DAS (as hereinafter defined) requirements set forth on Exhibit B hereto, the Plan and other Sector requirements as may be adopted under the terms of this Agreement or the Sector's Bylaws. The Board shall review and approve any Schedule of Penalties prepared and recommended by the Committee prior to the commencement of the fishing year for which such Schedule of Penalties has been prepared. In addition, the Committee, on its own or at the request of a Manager or Member pursuant to Section 3.04 hereof, shall have the authority to take any number of enforcement measures against the Members for the non-payment of membership dues and/or poundage fees. Such enforcement measures may include requesting expulsion of the violating Member under Section 7.02 and issuing a "stop fishing" order against such Member.

Section 3.04 Procedures for Investigations. In addition to the Manager's authority to invoke penalties under the Schedule of Penalties pursuant to Section 3.02 hereof, the Manager may, on his own, and shall, at the request of a Member, request that the Committee conduct an investigation of possible infractions of the Agreement, the Harvesting Rules, the Plan or other Sector requirements as may be adopted under the terms of this Agreement or the Sector's Bylaws, by calling a meeting of the Committee and presenting it with the information that is the basis for the Manager's or Member's opinion that an infraction occurred. The Committee shall operate as a "blind" committee, such that the identity of the Member, Permit and/or Participating Vessel under consideration shall only be known to the Manager. The Committee shall assign a number of its members, which constitutes no more than 50% of the Committee, to investigate the matter further and to recommend action, if any, to the full Committee. Such Committee member assignments shall be rotated. If, upon the conclusion of such investigation, the Committee determines by an affirmative vote of a majority (51%) of its members that a violation of this Agreement, the Harvesting Rules, the Plan or other Sector requirements (as may be adopted under the terms of this Agreement or the Sector's Bylaws) has occurred, it may, and is hereby given the authority to (in addition to the imposition of any penalties prescribed in the Schedule of Penalties), invoke sanctions, ranging from letters of warning to reductions in allocation of days-at-sea allotted ("DAS") to the Member, its Permits and its Participating Vessels by the Sector, or issue stop fishing orders. The Committee shall exercise all reasonable efforts to ensure that penalties and settlements are commensurate with the nature and extent of the violation, are designed to further the purposes of the Plan and Amendment 13 and are uniform with those reached in similar circumstances. All appeals from such Committee action shall be taken in accordance with Section 6.04 hereof. Each of the Members agrees to cooperate fully with the Manager and the Committee in such investigations and procedures (including cooperation with any requests for information or data that may be made by the Manager or the Committee).

Section 3.05 Annual Report. The Manager shall prepare and submit to the New England Fishery Management Council and NMFS an annual year-end report on the fishing activities of its Members, including the harvest levels of all Participating Vessels for cod and other federally-managed limited access groundfish species, any enforcement actions taken against the Members, their

Permits or Participating Vessels, and other information necessary to evaluate the Sector's performance.

Article IV. ALLOCATION

Section 4.01 Annual Distribution. Each Member hereby acknowledges and agrees that the aggregate allocation of GB cod authorized by NMFS to the Sector (the "Aggregate Allocation") shall be harvested in accordance with the Harvesting Rules, which are set forth as Exhibit C hereto, and the requirements as to DAS set forth on Exhibit B hereto. Each Member agrees to, and agrees to cause its Participating Vessels to, exercise all commercially reasonable efforts to (i) assist in harvesting an amount of GB cod equal to, but not greater than, the Aggregate Allocation, as further set forth on Exhibit C, and (ii) to comply with all of the other Sector requirements set forth on Exhibit B and Exhibit C hereto. If the Board determines that the Aggregate Allocation may not be fully harvested in any fishing year, the Board shall, subject to the provisions of Section 4.02, redistribute the Aggregate Allocation, through DAS, monthly quota targets or otherwise, to ensure that the Aggregate Allocation is fully harvested. In addition, to the extent that the Aggregate Allocation is adjusted upward or downward after the commencement of any fishing year, whether by the authority of NMFS, by framework adjustment or by other regulatory action, the Board shall have the authority to redistribute the adjusted Aggregate Allocation through DAS, monthly quotas or otherwise, to ensure that the adjusted Aggregate Allocation is properly harvested by the Members.

Section 4.02 Reserve. Each Member agrees that the Board may, in its sole discretion, establish a reserve of GB cod in order to ensure that the Sector remains in compliance with its Aggregate Allocation limit; provided, however, that such reserve shall not exceed five percent (5%) of the Aggregate Allocation. The amount of the reserve shall be deducted from the Aggregate Allocation before such Aggregate Allocation is distributed among the Members, their Permits and their Participating Vessels through DAS, monthly quota targets or otherwise.

Section 4.03 Distribution of Reserve. If the Board, subsequent to the establishment of a reserve pursuant to Section 4.02 hereof, determines that the Aggregate Allocation, as adjusted pursuant to Section 4.02, will be fully harvested by the Participating Vessels, the Board shall release and authorize the harvesting of the reserve by the Members, their Permits and their Participating Vessels, whether by redistribution of DAS or through direct individual allocations of the reserve of GB cod. **NMFS will be notified of such release within 48 hours.**

Section 4.04 Fishing History in Sector. The Members agree that any fishing history, which is accumulated or established by a Member's Permit while it is participating in the Sector (the "Sector History"), shall be attributed to such Member's Permit, and not to any other permits. Notwithstanding the foregoing, the Members further agree that any future allocations of GB cod made within the Sector shall be based on the fishing history of the Members'

Permits that is accumulated during the Qualifying Period, and shall not be based on such Permits' Sector History.

Section 4.05 Non-Prejudicial. It is the intent of the Members that the fishing history and DAS allocation of any Member's Permit during the Qualifying Period, as reported to NMFS prior to joining the Sector, shall not be diminished or penalized as a result of participation in the Sector in lieu of participation in the Multispecies DAS program.

Article V. CATCH MONITORING AND VERIFICATION; CERTAIN OTHER MEMBERSHIP REQUIREMENTS

Section 5.01 Participating Vessel Catch Reports. To enable each Member and the Sector to monitor the Members' compliance with this Agreement, each Member agrees to report each of its Participating Vessels' entire catch on a landing-by-landing basis, by providing the Manager with a copy of the official Vessel Trip Report or other reporting document authorized by NMFS within 48 hours of offloading fish in the form and manner prescribed by the Manager. The Members agree that these records shall be maintained by the Manager. The Manager shall, upon the request of any Member, provide such Member with the Sector's aggregate catch information that is generated from such records. The Manager shall, on a monthly basis, transmit to NMFS such Vessel Trip Reports (or other document authorized by NMFS), together with the aggregate catch information generated from such reports ("Aggregate Reports"). After 90% of the Sector's Aggregate Allocation has been harvested, the Manager shall provide NMFS within 48 hours. The Sector Manager shall report to NMFS with Aggregate TAC Reports on a weekly basis thereafter.

Section 5.02 Dealer Reporting. Each Member agrees to (i) sell the catch of its Participating Vessels only to a dealer licensed under the Plan by NMFS and (ii) cause any such dealer to provide the Manager with a copy of the official dealer weigh out slip or other official reporting document required by NMFS on a weekly basis. Each Member further acknowledges and agrees that (a) it is responsible for ensuring timely dealer reporting in accordance with the provisions of this Section 5.02 and (b) failure of the dealer to timely deliver the reports for a Member's Participating Vessel in accordance with this Section 5.02 shall be deemed a breach of this Agreement by such Member.

Section 5.03 Catch Verification. The Manager (or his designated agent) shall, and each Member (or its designated agent) shall ensure that the Manager does compare, verify and validate each Participating Vessel's catch records with the dealer reports for such Participating Vessel on a continuing and frequent basis. If the Manager identifies a discrepancy, he shall immediately notify the affected Member and seek to resolve the discrepancy. If the Manager is unable to satisfactorily reconcile the catch records, he shall notify the Committee of the discrepancy for its consideration and resolution. Each Member further agrees to cooperate fully with any requests for information or data that are made by the Manager or the Committee in an effort to resolve such discrepancy.

Section 5.04 Designated Landing Ports. To enable the Members and the Manager to monitor, observe and verify catches, each Member agrees that each of its Participating Vessels will only offload fish in the designated ports of Aunt Lydia's Cove, Chatham; Stage Harbor, Chatham; Saquatucket Harbor, Harwich; Allens Harbor, Harwich; Wychmere Harbor, Harwichport; Bass River, Yarmouth; Hyannis Harbor, Barnstable; Cotuit, Barnstable and Nauset Inlet, Orleans.

Section 5.05 Landing Port Exceptions. Landings in ports other than those listed in Section 5.04 hereof are permitted on a temporary, case-by-case basis, subject to prior approval of the Manager; provided, that the Manager determines that the excepted landing will not impair effective enforcement and monitoring of the Sector and this Agreement. Such exceptions may be granted in the sole discretion of the Manager. The Manager shall report to NMFS any landing port exceptions **within 24 hours of such exception being granted.**

Section 5.06 Observed Offloading. Each Member agrees that, in order to enhance the monitoring and enforcement of the provisions in this Agreement, the Manager may timely request that an observer be present during offloading operations. If such a request is made, each Member agrees not to permit its Participating Vessels to offload fish until the Manager or his designee is present.

Section 5.07 Advanced Notice of Offloading. If appropriate or necessary for purposes of quota monitoring or Sector efficiency, the Members' Participating Vessels may be required to notify the Manager prior to offloading fish.

Section 5.08 Proof of Sector Membership. Each Member agrees that its Participating Vessels shall maintain on-board at all times while fishing for groundfish a Letter of Authorization from NMFS verifying such Participating Vessels' participation in the Sector, except when such Participating Vessels are fishing as charter/party vessels pursuant to Section 5.12 hereof.

Section 5.09 Gear Restrictions. Each Member agrees that its Participating Vessels shall not fish for GB cod with any gear other than jigs, non-automated demersal longline or handgear.

Section 5.10 Area Restrictions. Each Member agrees that it shall not fish commercially with gear that is capable of harvesting GB cod or other groundfish species managed under the Plan outside the "Georges Bank Cod Hook Sector Area," as such area is defined in 50 CFR Part 648.87(d), or any substitute or successor provision (the "Area").

Section 5.11 Operators. Each Member agrees to ensure that any operators of its Participating Vessels fully comply with the obligations and restrictions set forth in this Agreement. Each Member further agrees to accept responsibility hereunder for the actions of any such operators that result in a violation of this Agreement.

Section 5.12 Charter/party vessels. Each Member agrees that its

Participating Vessels (and the related Permits) engaged in groundfish fishing as a charter/party vessel shall be subject to all of the regulations applicable to charter/party vessels. Cod catches made during such period shall not apply to the Sector's Aggregate Allocation.

Article VI. ENFORCEMENT

Section 6.01 Agreement Enforcement. Each Member agrees that the Sector, by or through its representatives, and/or any other Member may enforce this Agreement on behalf of the Sector and/or its Members. Each Member agrees to take all actions and to execute all documents necessary or convenient to give effect to the enforcement procedures contemplated by this Agreement, the Harvesting Rules and any Schedule of Penalties.

Section 6.02 Restrictions on Fishing Activity. The Members acknowledge that a violation of this Agreement or applicable federal fishery regulations by one or more Members (or the Members' Permits, Participating Vessels or Participating Vessels' operators, if any) that causes the Sector to exceed its Aggregate Allocation could subject the Sector and its Members to joint and several liability to NMFS for fishing violations. The Members further acknowledge and agree that monetary penalties could be inadequate recourse under such circumstances. Therefore, the Members acknowledge and agree that each of them will (and will cause their Permits, Participating Vessels and Participating Vessels' operators, if any, to) comply with a "stop fishing" order from the Sector, which shall be issued by the Board, the Manager or the Committee, and each of the Members further agrees that if any Member (or its Permits, its Participating Vessels or the Participating Vessels' operators) fails to comply with such order, the Sector shall have the authority to obtain an injunction, restraining order or other equivalent form of equitable relief to give effect to such "stop fishing" order.

Section 6.03 Penalties for Violations. Any penalties that are imposed upon a Member by the Sector pursuant to the terms of this Agreement shall be in addition to, and not in lieu of, any other potential state or federal penalty that may be imposed upon such Member.

Section 6.04 Appeal from Committee Decision. If the Committee (i) has determined, pursuant to the procedures set forth in Section 3.04 hereof, that a Member has violated this Agreement or (ii) makes any other determination with respect to a Member under this Agreement (including, specifically, without limitation Section 5.03 hereof), such violating Member shall have five business days following the date of the Committee's determination to request reconsideration of the enforcement or other action and/or propose an alternative form of penalty. Such request shall be made in writing and shall be addressed to the Board. The Board may, in its sole discretion, grant or deny any request for reconsideration and may, in its sole discretion, approve or disapprove any alternative form of penalty; provided, that the Board shall exercise all reasonable efforts to ensure that penalties and settlements are commensurate with the nature and extent of the violation, are designed to further the purposes of the Plan and Amendment 13 and are uniform with

those reached in similar circumstances.

Section 6.05 Penalties and Attorneys' Fees. Penalties for any violations of this Agreement shall, to the extent addressed in the Schedule of Penalties, be limited to the amounts set forth on the Schedule of Penalties plus all costs, fees and expenses, including attorneys fees, incurred by the Sector or, in a case in which the Sector does not take enforcement action, by the Members bringing such action, in enforcing the provisions of this Agreement. To the extent the Schedule of Penalties addresses such matter, the Members and the Sector hereby waive any claims to actual, direct, or indirect damages, and instead agree that payment of the amounts set forth on the Schedule of Penalties and costs of enforcement shall be their sole remedy for breaches of this Agreement. In connection with any legal proceeding related to this Agreement, the non-prevailing party shall pay the prevailing party's reasonable costs and attorney's fees associated with the proceeding.

Section 6.06 Application of Penalties, Fines and Damages. All penalties, fines and/or other damages paid to the Sector shall, first, be applied to the cost of enforcement of such violations and, second, any remaining amounts shall be applied to the costs and expenses of the administration, management and preservation of the Sector. Any funds remaining after the application of the foregoing sentence shall be used to further research into efficient management of groundfish stocks for the benefit of the resource and those that harvest the resource.

Section 6.07 Dispute Procedures. Notwithstanding the provisions of Section 6.01 hereof, prior to instituting any litigation or other dispute resolution, the parties shall follow any applicable procedures set forth in this Agreement, including specifically Sections 3.04, 6.04 and 7.02, for the resolution of such dispute. Any appeals taken with respect to any dispute that arises in connection with this Agreement shall be taken in the federal district court in Boston, Massachusetts or, if said court does not have jurisdiction, in such courts in the Commonwealth of Massachusetts that do have jurisdiction.

Section 6.08 Specific Performance. In furtherance and not limitation of Section 6.02 hereof, each of the Members and the Sector shall have the right to have any provision of this Agreement specifically enforced, through injunction, restraining order or other form of equitable relief.

Section 6.09 Indemnification. Each party that violates this Agreement (the "Indemnitor") hereby severally agrees to indemnify, defend and hold harmless the other parties hereto (each, an "Indemnitee") in respect of their respective Losses; provided, that such Losses result or arise from a third party claim or governmental proceeding brought against or involving the Indemnitee, which is based on or relates to such Indemnitor's (or its Permits', its Participating Vessels' or such Participating Vessels operators', if different from such Indemnitor) (i) violation of applicable laws, rules or federal fishery regulations or (ii) breach of any covenant, agreement or obligation contained in this Agreement, the Harvesting Rules or other Sector requirements as may be adopted under the terms of this Agreement or the Sector's Bylaws. The

indemnification obligations of the parties hereto shall be several and not joint and several. For the purposes of this Section 6.09, "Losses" shall mean any and all claims, liabilities, obligations, judgments, liens, injunctions, charges, orders, decrees, rulings, damages, dues, assessments, taxes, losses, fines, penalties, expenses, fees, costs, amounts paid in settlement (including reasonable attorneys' and witness fees and disbursements in connection with investigating, defending or settling any action or threatened action) arising out of any claim, complaint, demand, cause of action, action, suit or other proceeding asserted or initiated or otherwise existing. The obligations under this Section 6.09 shall survive the termination of this Agreement and the expulsion of any Member pursuant to Article VII.

Article VII. EXPULSION OF MEMBERS

Section 7.01 Cause. The Members agree that any Member, its Permits and/or its Participating Vessels may be expelled from the Sector if (i) the actions of such Member and/or its Participating Vessels (or the Participating Vessels' operators) seriously undermine and threaten the existence of the Sector, (ii) the actions of such Member and/or its Participating Vessels (or the Participating Vessels' operators) have exposed other Members of the Sector to monetary penalties and/or legal actions, (iii) such Member has been convicted of a serious crime, or (iv) such Member has not paid its membership dues and/or poundage fees as required by Section 2.06.

Section 7.02 Procedure. Any Member, the Committee or the Manager may submit to the Board a request to have a Member, its Permits and/or its Participating Vessels expelled from the Sector (the "Expulsion Request"). Such Expulsion Request shall be in writing and shall include an explanation of the basis for expulsion. The Board shall vote on such Expulsion Request within fourteen (14) days of receipt of such Expulsion Request. The affirmative vote of three-fourths (75%) of the members of the Board shall be required in order to expel a Member, its Permits and/or its Participating Vessels. Expulsion shall be effective immediately upon the receipt of the requisite vote by the Board. As required by 50 CFR Part 648.87 or any substitute or successor provision, a Member, its Permits and/or its Participating Vessels expelled during any fishing year may not fish outside of the Sector under a multispecies DAS program during the remainder of such fishing year. Upon expulsion of any Member, its Permits and/or its Participating Vessels, the Manager shall immediately notify NMFS via certified mail that the Member's Permits and/or Participating Vessels are no longer included in the Sector.

Article VIII. TERM/TERMINATION

This Agreement takes effect upon the approval hereof by the Regional Administrator in accordance with 50 CFR Part 648.87 and terminates on the last day of the 2006 fishing year (which occurs in April 2007) (the "Term"). The Term of this Agreement may be extended by the written consent of the Members. Such written consent to extend the Term of this Agreement shall be given 20 calendar days in advance of the date by which the Sector's Operations Plan and Agreement for the upcoming fishing year must be submitted to NMFS.

Notwithstanding the foregoing, if NMFS shall not approve the Sector's Operations Plan and Agreement, as the same may be amended, for any fishing year during the Term or any extension thereof, then this Agreement shall terminate on the last day of the last fishing year for which the Sector's Operations Plan and Agreement shall have received approval from NMFS.

Article IX. MISCELLANEOUS

Section 9.01 Entire Agreement. This Agreement, including the Exhibits hereto, the Schedule of Penalties and any other documents incorporated by reference herein, constitutes the entire agreement among the parties and supersedes any prior understandings, agreements, or representations by or among the parties, written or oral, to the extent they related in any way to the subject matter hereof.

Section 9.02 Succession and Assignment. This Agreement and all of the provisions hereof shall be binding upon and inure to the benefit of the parties and their respective successors and permitted assigns, but neither this Agreement nor any of the rights, interests or obligations hereunder shall be assigned by any party, including by operation of law, without the prior written consent of the Manager, such consent not to be reasonably withheld or delayed, nor is this Agreement intended to confer upon any person except the parties hereto any rights, interests, benefits, obligations or remedies hereunder. Any assignment in contravention of this Agreement shall be null and void.

Section 9.03 Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.

Section 9.04 Notices. All notices, requests, demands, consents, claims and other communications hereunder shall be deemed duly given (i) one business day following the date sent when sent by overnight delivery, (ii) five business days following the date mailed when mailed by registered or certified mail return receipt requested and postage prepaid, and (iii) upon delivery confirmation when sent by facsimile, at the contact information provided by each such Member to, and maintained by, the Manager.

Section 9.05 Governing Law. This Agreement shall be governed by and construed in accordance with federal fisheries laws and, to the extent that federal fisheries laws do not apply, with the domestic laws of the Commonwealth of Massachusetts without giving effect to any choice of law provision or rules (whether of Massachusetts or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than the Commonwealth of Massachusetts.

Section 9.06 Change in Law. If and to the extent that any laws or regulations that govern any aspect of this Agreement shall change, so as to make any aspect to this Agreement unenforceable, then the parties agree to make such modifications to this Agreement as may be reasonably necessary for this Agreement to accommodate any such legal or regulatory changes, without

materially changing the overall benefits or consideration expected hereunder by the parties.

Section 9.07 **Consent to Jurisdiction and Venue.** Subject to and without limiting the dispute resolution procedures set forth in Article VI, each of the Members consent to the exclusive jurisdiction and venue of the federal district court in Boston, Massachusetts or, if said court does not have jurisdiction, in such courts in the Commonwealth of Massachusetts that do have jurisdiction, for adjudication of any suit, claim, action or other proceeding at law or in equity relating to this Agreement. Each of the Members accepts, generally and unconditionally, the exclusive jurisdiction and venue of the aforesaid courts and waives any objection as to venue, and any defense of *forum non conveniens*.

Section 9.08 **Amendments and Waivers.** No amendment of any provision of this Agreement shall be valid unless the same shall be in writing and signed by each of the Members.

Section 9.09 **Severability.** Any term or provision of this Agreement that is held invalid or unenforceable in any situation shall not affect the validity or enforceability of the remaining terms and provisions hereof or the validity or enforceability of the offending term or provision in any other situation.

Section 9.10 **Expenses.** Except as otherwise provided herein, each of the members shall bear its own costs and expenses (including legal and accounting fees and expenses) incurred in connection with this Agreement.

Section 9.11 **Incorporation of Exhibits and Other Documents.** The Exhibits and Schedule of Penalties identified in this Agreement are incorporated herein by reference and made a part hereof.

ARTICLE X. SPECIAL ACCESS PROGRAMS.

Section 10.1. **Reserved.**

IN WITNESS WHEREOF, the undersigned parties have executed this Agreement as of the date first written above.

EXHIBIT A

Georges Bank Cod Hook Sector Allocation Penalty Schedule			
VIOLATION	FIRST	SECOND	THIRD
VIOLATIONS REGARDING PERMITS, REPORTING, DOCUMENTATION, EXEMPTION PERMIT REQUIREMENTS			
All Violations including but not limited to: providing false statements or supporting documentation on applications or reports to the Sector; late or non-reporting; failure to comply with a permit condition/ restriction/ letter of authorization or exemption issued by the Sector; providing false statements or failing to comply with VMS/DAS requirements (technical and minor violations may result in a letter of warning).	Up to \$500 (and/or stop fishing order)	\$500-\$1,000 (and/or stop fishing order)	\$1,000 + (and/or stop fishing order)
VIOLATIONS REGARDING TIME AND AREA RESTRICTIONS			
All violations including, but not limited to: exemption areas, closed fisheries, closed seasons, restricted gear/management areas and Days at Sea violations.	\$2,000-\$50,000 (stop fishing order for 30days)	\$10,000-\$100,000 (unable to fish for the remainder of the fishing year)	Expulsion
VIOLATIONS THAT PLACE THE SECTOR AGREEMENT AT RISK			
All violations including but not limited to a violation of a stop order, entering a closed area, transfer of fish from a non-sector vessel to a sector vessel, subverting the reporting requirements (misappropriating landings) or any other action which could cause the Authorized Georges Bank Cod Sector Allocation to be in violation of its agreement.	Up to \$50,000 (loss of fishing rights for 365 days)	Expulsion	
VIOLATIONS REGARDING MEMBERSHIP COMMITMENT			
Violation of 50 CFR Part 48 or failing to remain in the Sector for the Commitment Period (i.e., breach of Section 2.03 of the Agreement).	\$10,000	N/A	N/A

EXHIBIT B

<u>Permit No.</u>	<u>Current Owner</u>	<u>Vessel Name</u>	<u>Enroll. Year</u>	<u>NMFS Allocation of Cod Landings (%)</u>	<u>DAS Allocation</u>		
					<u>A</u>	<u>B req.</u>	<u>B res.</u>
222231	MICHAEL G ABDOW	MAGIC	2004				
100277	ALTHEA K INC	ALTHEA K	2004				
211787	MICHAEL G ANDERSON	BAD DOG	2004				
147275	WILLIAM BAPTIST	NOMAD	2004				
130772	WILLIAM T BARKER	ZACHARY T	2004				
222022	WADE S BEHLMAN	JENNIFER DAN	2004				
242654	BENJO INC	SAGA MISS	2004				
222365	WALLACE H BICKNELL	MELODYE	2004				
230322	DONALD A BRAMLEY	POOH BAH	2004				
230301	MATTHEW A BUNNELL	TRICIA LYNN	2004				
211239	WILLIAM C CHAPRALES	RUEBY MISS	2004				
223565	JOHN DEMANGO	JENNIFER	2004				
136267	KENNETH F ELDREDGE	FIASCO	2004				
230420	JAMES B ELDREDGE	YELLOW BIRD	2004				
214970	ERIC M. HESSE	MATTANZA	2004				
213121	ERIC M HESSE	TENACIOUS WILLIAM	2004				
232043	ROGER W HORNE	GREGORY NEVER	2004				
100598	BRUCE KAMINSKI	ENOUGH	2004				
230296	RAYMOND W KANE	FRENZY	2004				
212155	BRUCE R KRUCZEK	GLORY K	2004				
146672	EARL T LEGEYT	SEA HOOK	2004				
222173	GLEN T LEGEYT	MISS MORGAN	2004				
221764	THEODORE J LIGENZA LORI ANN FISHERIES	RIENA MARIE	2004				
210586	INC	LORI ANN	2004				
211160	THOMAS E LUCE	SEA WIN	2004				
230716	DARLENE R MACARA	BAD SEED	2004				
223512	KURT MARTIN	TIME BANDIT	2004				
213029	PEGGY B II INC	PEGGY B II ZACH AND	2004				
150041	MIKE RUSSO	ABBY	2004				
223581	RAYMOND J. RANSOM	LYNDSY LIZ	2004				
221581	[DEMANGO]	IRISH LADY	2004				

DAS Allocation

Permit			Enroll.	NMFS Allocation of			
No.	Current Owner	Vessel Name	Year	Cod Landings (%)	A	B req.	B res.
146765	MICHAEL A RUSSO PAUL D	SUSAN LEE	2004				
119177	SCHEFFLER	NOTHIN YET	2004				
233177	LESLIE G SHWOM	ROSEY S	2004				
241673	THOMAS S SMITH	SEA WOLF	2004				
231435	JOHN F SULLIVAN	BACK OFF	2004				
221518	THOMAS M SZADO WILLIAM	ARLIE X	2004				
149969	CHAPRALES	DOLPHIN	2004				
242520	PETER TAYLOR MICHAEL E	SEA HOUND	2004				
231241	TERRENZI	KELLY J	2004				
211403	TRAINAS INC HAROLD VAN	SUE Z CHRISTI	2004				
221718	DYKE GREGORY F	MARIE	2004				
232096	WALINSKI	ALICIA ANN TUNA	2004				
213004	WTB FISH INC ALFRED J	ECLIPSE SURF	2004				
221794	YUKNAVICH	BREAKER BRANDI	2004				
149431	DALE A TRIPP	ELLEN II	2004				
149971	ERIC HESSE	NONAME	2004				
222753	MARK V LEACH	SEA HOLLY	2004				
223607	ROBERT P. MILLER	HEADHUNTER	2004				

Total Qualified Landings:

EXHIBIT C

HARVESTING RULES Fishing Year 2006

The Members and the Participating Vessels of the Sector agree to be legally bound to follow the Harvesting Rules for the fishing year 2006 as described herein, notwithstanding those rules and regulations applicable to common pool Multispecies vessels.

HARVESTING RULES For Fishing Year 2006-2007

The Members and the Participating Vessels of the Sector agree to be legally bound to follow the Harvesting Rules for the fishing year 2006 as described herein, notwithstanding those rules and regulations applicable to common pool Multispecies vessels.

1. Aggregate Sector allocation: GB cod TAC (insert poundage): The Members agree that they will not collectively harvest more GB cod than the Sector TAC and that once the annual TAC is reached no Member will fish commercially with any fishing gear capable of catching GB cod or other species managed under the Plan.

2. Monthly quota targets: Commencing May 2006, 8.33% of the Sector's cod quota will be allocated to each month of the fishing year. Quota that is not landed during a month will be rolled over into the next month. Once the aggregate monthly quota is reached, no Participating Vessel will be authorized to use fishing gear capable of catching GB cod or other species managed under the Plan.

	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April
%	8.33	16.67	25	33.33	41.67	50	58.33	66.67	75	83.33	91.67	100

3. Days-At-Sea ("DAS"): Each participating Permit and Participating Vessel will be allocated DAS by the Regional Administrator through Amendment 13, as set forth on Exhibit B to the Agreement. This DAS allocation will be considered the Sector's DAS allocation distributed to individual Members. Members will be required to use an "A", "B Regular" or "B Reserve" DAS when conducting fishing operations.

4. Sector Call-In: Each Participating Vessel must call in to the Manager or his designated representative prior to departing from port when using fishing gear capable of catching GB cod.
5. DAS Transfer/Lease: A Participating Vessel and/or Permit may not transfer or lease DAS to any non-Sector vessel and/or permit during the fishing year in which the Participating Vessel and/or Permit is enrolled in the Sector.
6. Full retention: All legal size GB cod harvested during any fishing operation must be retained, landed and counted against the Sector's Aggregate Allocation.
7. Species Trip Limits: There will be no species trip limit for GB cod during the 2006 fishing year. White hake (1000 lbs per DAS), GB winter flounder (2000lbs per trip) All Yellowtail (100lbs per trip). All cod harvested by Members and Participating Vessels shall be considered GB cod for the purposes of the Operations Plan and Agreement.
8. Hook Size: All hooks must be 12/0 circle hooks. For these purposes, a "circle hook" is defined as a hook with the point turned back towards the shank and the barbed end of the hook is displaced (offset) relative to the parallel plane of the eyed-end, or shank of the hook when laid on its side.
9. GB Seasonal Closure/Spawning Season Restrictions: Participating Vessels are not required to adhere to the seasonal closure on Georges Bank (May 1 through May 31). However, Participating Vessels must continue to comply with the Spawning Season Restrictions.
10. Closed Areas: Participating Vessels may fish in closed areas to the extent authorized by NMFS.
11. Gear Restrictions: Members and their Participating Vessels may not fish for GB cod or other species managed under the Plan with gear other than jigs, non-automated demersal longline, or handgear. The Board reserves the right to prohibit other fishing activities by Members if it determines that those activities undermine or compromise the Plan and the Sector or otherwise conflict with the standards and ethics described in the bylaws and guiding principles.
12. Distribution and pooling of DAS At the beginning of the fishing year each participating vessel will be allocated DAS identical to the individual baseline established for the vessel by Amendment 13 and subsequently reduced by framework action (FW 42). At any time during the year and subject to Board approval, a Member may request the Manager to redistribute DAS among one or more participating vessels. Vessel size restrictions (10% length, 20% horsepower) do not apply to the redistribution

of DAS among sector vessels. The maximum vessel characteristics are limited to the largest baseline of a Sector permit. Internal Sector redistribution will cease after March 1st of a given fishing year in order to provide for administrative action and time to fish the DAS.

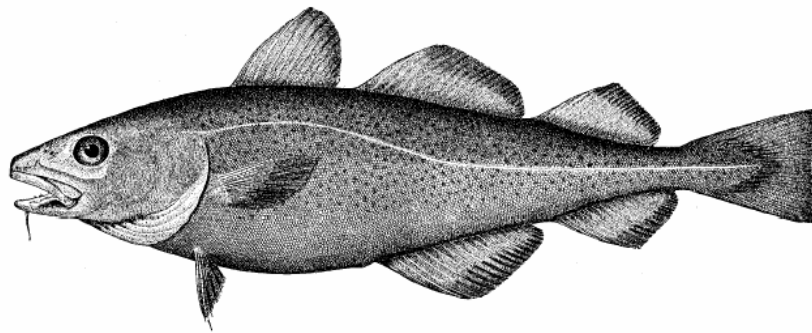
13. Observer Notification Requirements in the US/CA Resource Management Area: Members are exempt from the requirement to notify the observer program at least 72 hours prior to entering the Western US/CA area, only while fishing on an A DAS. Members wishing to fish in the B regular DAS program are still required to notify NMFS 72 hours in advance. All other requirements (reporting, VMS) are maintained. Members electing to enter the Eastern US/CA area are still obligated to comply with the observer notification requirements.

14. Additional DAS Management Measures: Participating vessels are not subject to differential DAS counting requirement implemented through Emergency Secretarial Action or Framework 42.

*Prorating of DAS and landings: Members and their Participating Vessels that use a DAS (including while engaged in an approved EFP) prior to the effective date of the Agreement under Article VIII thereof shall have such DAS usage deducted from such Members' individual DAS allocation set forth on Exhibit B hereto, for purposes of the DAS restrictions described in paragraph 3 of this Exhibit C. All GB codfish landed by said Participating Vessels shall be deducted from the Sector's Aggregate Allocation of GB cod. The Manager and/or other Sector management will consult with NMFS as to NMFS' crediting of all GB cod landings against the Sector's Aggregate Allocation.

**Proposed Agency Action:
Approval of the Georges Bank Cod
Hook Sector Operations Plan**

**Type of statement:
Final Environmental Assessment**



**Lead Agency:
National Oceanic and Atmospheric Administration (NOAA)
National Marine Fisheries Service (NOAA Fisheries)**

**In Consultation with the:
Georges Bank Hook Sector Inc.
&
Cape Cod Commercial Hook Fishermen's Association (CCCHFA)**

**For further information:
GB Hook Sector Inc**

John Pappalardo
Manager
210 Orleans Road
North Chatham, MA 02650

Phone: (508) 945-2432
Fax: (508) 945-0981
johnp@ccchfa.org

April 14, 2006

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1.0 INTRODUCTION

The final rule implementing Amendment 13 to the Northeast (NE) Multispecies Fishery Management Plan (FMP) (69 CFR 22906, April 27, 2004) specified a process for the formation of sectors within the NE multispecies fishery and the allocation of TAC for a specific groundfish species (or Days-at-Sea), implemented restrictions that apply to all sectors, authorized the Georges Bank (GB) Cod Hook Sector (Sector), established the GB Cod Hook Sector Area (Sector Area), and specified a formula for the allocation of GB cod TAC to the Sector. While Amendment 13 to the NE Multispecies FMP authorized the Sector, in order for GB cod to be allocated to the Sector and the Sector authorized to fish, the Sector must submit an Operations Plan and Sector Contract to the Regional Administrator annually for approval. The Operations Plan and Sector Contract must contain certain elements, including a contract signed by all Sector participants and a plan containing the management rules that the Sector participants agree to abide by in order to avoid exceeding the allocated TAC. An analysis of the impacts of the Sector's proposed operation and harvesting rules may be required in order to comply with the National Environmental Policy Act.

This proposal requests several changes to the approved 2005 GB Hook Sector Operations Plan. The Sector proposes an exemption from the vessel baseline restrictions as applied to the DAS leasing program. The Sector requests exemption from the differential DAS counting contained with Framework 42 as well as the differential counting provisions proposed within the Emergency Secretarial Action. The Sector also requests an exemption from the requirement to notify the Observer program 72 hours prior to sailing in the Western US/CA area on an A DAS. Analysis and rationale for these requests is contained within the impacts section of this document starting at Section 3.0.

1.1 GEORGES BANK COD HOOK SECTOR OPERATIONS PLAN REQUEST

The Cape Cod Commercial Hook Fishermen's Association requests approval and implementation of the Georges Bank Cod Hook Sector Allocation Operations Plan (Operations Plan) during the 2006-07 fishing year. The Operations Plan has previously been approved for fishing years 2004-2005 and 2005-2006. The Operations Plan for 2006-2007 provides the specific details for how the Sector will function in the coming fishing year and is required for Sector approval.

The Sector is a group of self-selecting fishermen coming together voluntarily and cooperatively for the purposes of efficiently harvesting an annual allocation of Georges Bank cod. The Sector will operate under a hard Total Allowable Catch (TAC) of Georges Bank cod to meet the overfishing mandates of the Magnuson-Stevens Fishery Conservation and Management Act of 1996 (Magnuson Act). Furthermore, the Sector will innovate novel and highly adaptive means of local decision-making, self-monitoring, and enforcement that will serve as a model for the future of sustainable fisheries in New England. Implementation of the Operations Plan will mitigate harmful economic impacts that are expected as a result of Framework 42 to the NE Multispecies FMP by conveying environmental, social and economic benefits to the members instead.

Member Requirements and Sector Rules

To qualify for participation in the Sector, members must possess a valid limited access NE multispecies permit and an allocation of days-at-sea (DAS) under Amendment 13. Sector members must have documented landings of Georges Bank cod with hook gear during the

qualifying period in order to be eligible for participation in the Sector. Under Amendment 13, the New England Fishery Management Council (NEFMC) established the Sector qualifying period according to baseline years 1996-2001 that were used to allocate DAS. Sector members will be required to declare their intention to join the Sector to the National Marine Fisheries Service (NMFS) Regional Administrator (RA) on an annual basis. Sector members will be legally bound by a Membership Agreement that outlines expectations of members as well as a schedule of penalties for violations of Sector rules. The vast majority of hook fishermen on GB land their catch on Cape Cod.

The Operations Plan, including the specific rules, are attached as Appendix I. The Sector will operate under a hard TAC, assuring that the Sector will not contribute to overfishing of the GB cod stock. Real-time landings data will be employed to ensure compliance with the hard TAC. Once declared into the Sector, members will fish for groundfish solely within the Sector Area (Figure X). Furthermore, Sector members must utilize only hook gear to target groundfish. Sector members will retain all legal sized GB cod to minimize bycatch of the target species. The Sector Manager (Manager) will oversee day-to-day operations of the Sector. The quota will be divided up by months, ensuring that there will be an opportunity for Sector members to fish each month of the year. Monthly distribution of the quota serves to maintain equity between vessels within the sector that have traditionally fished during different times of the year. The Sector will act as a model for the future of community and quota based management regimes in New England.

1.2 PURPOSE AND GOALS

1.2.1 PURPOSE AND NEED FOR THE PROPOSED ACTION (SECTOR ALLOCATION)

The need for this action is to provide an opportunity to mitigate disproportionate economic impacts to hook vessels predicted to result from effort controls implemented through Amendment 13 and subsequent framework adjustments to the NE Multispecies FMP. The purpose of the action is to approve an Operations Plan and an allocation of GB cod for the Sector, the process for which was specified and authorized as part of Amendment 13, that would allow Sector members to alleviate social and economic hardships while meeting biological objectives through management rules that the Sector participants agree to abide by.

Approval and implementation of the Operations Plan will be the difference between financial viability and business failure for GB hook fishermen. Amendment 13 reduced the GB cod trip limit from 2,000 to 1,000 pounds per day and reduced the maximum number of hooks that a hook vessel can set and haul on a trip at 3,600. GB hook fishermen are highly reliant on GB cod for their economic survival. This reduction in hooks, initially instituted as part of the Interim Rule, further limited the efficiency and applicability of hook gear on GB and further disadvantaged hook vessels economically. The Operations Plan presents a vehicle to alleviate Sector vessels from input control measures that were made redundant when a hard TAC of GB cod was allocated to the Sector. Over the past two years, the Sector has demonstrated the ability of fishermen to come together cooperatively to alleviate the disproportionate economic hardship brought upon them by Amendment 13 and subsequent framework adjustments. Specifically during the Sector's first year of operation, its members demonstrated their ability to end their contribution to overfishing on GB cod by not exceeding their TAC. In addition, the Sector has demonstrated their outreach and campaigning ability by working with the local fixed gear fleet to form the Georges Bank Cod Fixed Gear Sector.

1.2.2 GOALS OF THE PROPOSED ACTION

For the purposes of developing Amendment 13, the NEFMC developed a set of goals and objectives. The Sector aims to achieve many of the goals and objectives set forth for the Amendment. Some of the most applicable goals and objectives for both the Amendment and Sector are listed below. Goals and objectives of Amendment 13 are excerpted from the Amendment 13 FSEIS Section 2.3:

Amendment 13 Goals:

Goal 1: Consistent with the National Standards and other required provisions of the Magnuson Act and other applicable law, manage the northeast multispecies complex at sustainable levels.

Goal 2: Create a management system so that fleet capacity will be commensurate with resource status so as to achieve goals of economic efficiency and biological conservation and that encourages diversity within the fishery.

Goal 3: Maintain a directed commercial and recreational fishery for northeast multispecies.

Goal 4: Minimize, to the extent practicable, adverse impacts on fishing communities and shoreside infrastructure.

Goal 6: To promote stewardship within the fishery.

Amendment 13 Objectives:

Objective 1: Achieve, on a continuing basis, optimum yield (OY) for the U.S. fishing industry.

Objective 3: Adopt fishery management measures that constrain fishing mortality to levels that are compliant with the Sustainable Fisheries Act.

Objective 4: Implement rebuilding schedules for overfished stocks, and prevent overfishing.

Objective 7: To the extent possible, maintain a diverse groundfish fishery, including different gear types, vessel sizes, geographic locations, and levels of participation.

Objective 9: Adopt measures consistent with the habitat provisions of the Magnuson Act, including identification of EFH and minimizing impacts on habitat to the extent practicable.

Objective 10: Identify and minimize bycatch, which include regulatory discards, to the extent practicable, and to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

Sector Goals:

Goal 1: Sustain a viable hook fishery on Georges Bank.

Goal 2: Sustain a viable commercial groundfish fleet in Chatham/Harwichport, Massachusetts.

Goal 3: Assure that the hook fleet will not overfish the GB cod stock through utilization of a hard TAC.

Goal 4: Create new opportunities for the GB hook fleet, such as opportunities to pursue healthy or rebuilding Groundfish stocks instead of GB cod

Goal 5: Retain access for small boat fishermen on GB.

Goal 6: Promote stewardship of GB cod resource.

Goal 7: Implement Community Based Management in New England.

Goal 8: Create a working model for future development, submission and implementation of other sectors in the New England groundfish fishery

The Sector is an example of fishermen coming together to create a management regime that takes into account the needs of hook fishermen on Georges Bank. Input control management measures have diminished the hook fleet in the Gulf of Maine and have severely undermined the ability of the GB hook fleet to remain economically viable. The Sector will allow the GB hook fleet to

survive and prosper as stocks rebuild. In addition, it provides a model for other New England day boat fleets that are looking for alternative management options. Traditionally, fishermen have fought against more restrictive management prescriptions. The Sector, on the other hand, is an example of responsible fishermen showing their commitment to sustainability in the fishery by voluntarily accepting a hard TAC and other intensive management measures. The Sector represents a heretofore unique opportunity for fishermen to lead the way in promoting conservation and stewardship of the resources they depend on.

1.3 BACKGROUND – REGULATORY ENVIRONMENT

Brief History of Management Actions

The NE Multispecies FMP was adopted in 1986 to manage key groundfish stocks from Maine to Cape Hatteras. For the next decade, groundfishermen in New England operated under a regime that failed to achieve an effective level of management. The Magnuson Act was amended with the adoption of the Sustainable Fisheries Act (SFA) in 1996. Though the SFA, standards for effective management were set even higher by placing new demands on FMPs to reduce bycatch, identify and protect Essential Fish Habitat (EFH), and minimize adverse effects of fishing on EFH to the extent practicable. The SFA also initiated new National Standards in the Magnuson Act that emphasized minimizing impacts to fishing communities, improving safety at sea, significantly reducing bycatch and improving the collection and use of fishery and biological data.

Later that year, NMFS implemented Amendment 7 which included a multitude of effort reductions, area closures, and rebuilding programs for many overfished species (including GB cod) based primarily on DAS controls, area closures, and minimum mesh size. In addition the Amendment created a program for reviewing the management measures annually and making changes to the regulations through the framework adjustment process to insure that plan goals would be met.

Amendment 9, adopted in 1999, had a significant impact on the fishery by establishing a new definition of “overfishing” and setting the Optimum Yield (OY) for twelve groundfish species to bring the plan into complete compliance with the SFA. However, according to a 2000 ruling in *American Oceans Campaign et al. v. Daley et al.* [Civil Action No. 99-982(GK)], EFH considerations continued to be inadequate in fishery management plans. The U.S. District Court for the District of Columbia found that the agency’s decisions on the subject EFH amendments were in accordance with the Magnuson Act, but found that the EAs for the Councils’ amendments were inadequate and in violation of NEPA. The court ordered NMFS to complete a new and thorough NEPA analysis for each EFH amendment named in the suit. Among other things, Amendments 11 and 12 addressed these SFA requirements for designating EFH for all managed species.

Amendment 13

Conservation Law Foundation et al. v. Evans et al.

In December 2001, Conservation Law Foundation and other organizations successfully filed suit against NMFS alleging that the rebuilding plans the NMFS implemented were not consistent with Amendment 9 overfishing definitions (*Conservation Law Foundation et al. v. Evans et al.*). Additionally, they charged that there had been a consistent failure in management plans to assess bycatch reporting and establish measures to minimize bycatch and bycatch mortality (when

bycatch is unavoidable). After a long series of negotiations among various parties, interim measures were adopted by the court and NMFS was instructed to submit a management plan to comply with the law. The response to this is Amendment 13, which addresses stock rebuilding issues, greatly reduce fishing effort and capacity in the multispecies fishery and implements additional measures to specifically address habitat protection (NEFMC, Am. 13 FSEIS Section 2.1).

Excerpts from the Amendment 13 FSEIS prepared by the NEFMC describe the benefits of a sector allocation to the GB hook fleet with the following characterizations:

The creation of a voluntary sector for longline/hook and gillnet vessels on Georges Bank provides an opportunity for vessels to mitigate the impacts of the management alternatives. By organizing into a cooperative, vessels may be able to develop more efficient ways to harvest groundfish and minimize the inefficiencies that result from the regulations. While it is not possible to estimate the economic impacts of a sector until the actual members are known, the pool of members will probably be the vessels that have used longline or gillnet gear to fish on GB in the past. For fishing years 1996 through 2000, 182 vessels reported using longline gear to catch GB cod, and 294 vessels reported using gillnet gear. Some vessels used both gear – these two numbers represent 488 individual vessels. For fishing year 2001, there were 85 gillnet vessels in the GB cod fishery and 32 vessels that used hook gear. Gillnet vessels landed 14 percent of the GB cod in fishing year 2001, and hook vessels landed 10 percent of the GB cod (see Appendix VI). Gillnet vessels harvested 19 percent of the GB cod landed in fishing year 2000, while hook vessels harvested 9 percent (see MSMC 2001). About 86 percent of the GB cod landed from 1996 through 2000 by these two gears was landed in Chatham/Harwichport, MA, suggesting that this community is the one most likely to benefit if vessels choose to participate in this sector. Another 10 percent of GB cod was landed in Gloucester, MA by these two gear types.” (NEFMC, Am 13 FSEIS Section 5.4.9.3.1)

Amendment 13 was developed over a four-year period to meet the Magnuson Act requirement to adopt rebuilding programs for stocks that are overfished and to end overfishing. Amendment 13 also brought the FMP into compliance with other provisions of the Magnuson Act. Subsequent to the implementation of Amendment 13, Framework Adjustment 40A (FW 40A) provided opportunities to target healthy stocks, Framework Adjustment 40B (FW 40B) improved the effectiveness of the effort control program, and Framework Adjustment 41 (FW 41) expanded the vessels eligible to participate in a Special Access Program (SAP) that targets GB haddock (NEFMC, FW 42 DEA Section 3.3.1).

Framework Adjustments

The NE Multispecies FMP has been subject to many additional changes since its inception. Besides the 11 amendments implemented prior to development of Amendment 13, the NE Multispecies FMP has been altered through framework adjustments (FW) 30 times since 1994.

The Council has held four annual reviews and made eight adjustments to the FMP to address Amendment 7 rebuilding needs (Frameworks 20, 24, 25, 26, 27, 30 and 33). In 1999, the Council submitted Framework 27 as the primary annual adjustment framework. At the final framework meeting on January 27-28, the Council focused on the finalizing the severe restrictions necessary to achieve the plan objectives for GOM cod and was unable to complete development of the measures needed for GB cod. It followed immediately with the development of Framework 30 to address GB cod, which was submitted to NMFS on April 30. Both Frameworks 27 and 30

contained trip limits for GOM and GB cod. In both cases, the Regional Administrator was authorized to reduce the trip limit when 75 percent of the target TAC for each stock was reached. On May 28, 1999, the Regional Administrator reduced the GOM cod limit implemented on May 1, 1999 of 200 pounds per day to 30 pounds per day, just three weeks into the fishing year. However, even before the trip limit was reduced, fishermen reported excessive discards of cod as seasonal closures ended.

On May 28, 1999, responding to widespread reports from the industry about the levels of cod discards in the western Gulf of Maine, the Council requested that the Secretary of Commerce increase the trip limit under the emergency action authority provided in §305 of the Magnuson Act. On August 3, NMFS published an interim rule that increased the trip limit from 30 pounds per day to 100 pounds per day, with a maximum possession limit of 500 pounds and modifications to the running clock. The interim rule expired on January 30, 2000. NMFS announced on July 29, 1999 that it disapproved the 30-day closure on Georges Bank proposed in Framework 30, but it approved the trip limit, which took effect on August 15. Framework 30 established a GB cod trip limit of 2,000 pounds per day/20,000 pounds maximum possession. To address potential discarding in the GOM cod fishery upon expiration of the interim rule, and to prevent repeating on Georges Bank the discarding situation that occurred in the Gulf of Maine when the trip limit was reduced, the Council submitted Framework 31 on October 14, 1999. NMFS approved the increased GOM cod trip limit on January 5, 2000, but it disapproved the change to the GB cod trip limit program that would have eliminated the authority of the Regional Administrator to make mid-season adjustments to the trip limit when 75 percent of the target TAC is reached.

Framework 33 was implemented on June 1, 2000 to reduce or maintain fishing mortality rates for the five critical stocks below fishing mortality rebuilding targets established by Amendment 7. This framework continued the status quo seasonal closures for Gulf of Maine cod, but incorporated a "trigger" for additional closures: if 50 per cent of the target TAC was landed by July 31, the Cashes Ledge Closed Area would be closed in November and Blocks 124 and 125 would be closed in January. The WGOM closure was extended for an additional year, to April 30, 2002. GOM cod trip limits were held at 400 pounds per day with a maximum possession limit of ten times the daily limit. A GB cod trip limit of 2,000 pounds per day, not to exceed 20,000 pounds per tip, was also adopted. In addition, a closure of Blocks 109-114, 98, and 99 during May was implemented. The Multispecies Monitoring Committee (MSMC) reviewed stock status in November, 2000, and concluded that Amendment 7 fishing mortality targets were likely being met for GB cod, GB haddock, GB yellowtail flounder, and SNE yellowtail flounder. The fishing mortality of GOM cod could not be determined with precision because of extensive discards that were believed to have occurred in 1999 because of the low trip limit. GB cod was assessed in June 2001 and fishing mortality was reported to be slightly above the Amendment 7 target; subsequent assessments have shown this report to be in error. GOM cod was assessed in June 2001, and fishing mortality was found to be significantly above the FMAX target for this stock. After receiving the information on GOM cod at the July, 2001 Council meeting, the Council renewed efforts to develop Framework 36. Framework 36 was completed by December 2001, but the Council did not adopt the framework and it was not submitted.

Recent Changes in the NE Multispecies Fishery: Description of Frameworks 40A, 40B, 41, and 42

FW 40A to the NE Multispecies FMP provided exclusive access to Closed Area I (CAI) for the GB Hook Sector in a directed haddock Special Access Program (SAP). This SAP will continue to provide a significant contribution to the Sector members' annual catch and the overall

economic viability of hook fishing on Georges Bank. A paucity of cod will continue to require alternatives for the hook and line fishery on Georges Bank. Additionally, under FW 40B the eligibility criteria and allocation formula for the Sector changed. Amendment 13 established the Sector and allocates GB cod to the sector based on the history of the sector participants. As implemented, only permits with a past history of using hook gear can join the Sector, and only cod landed using hook gear is used to determine the Sector's cod allocation. FW 40B modified these requirements by allowing any vessel to join the Sector and all cod landings of Sector participants, regardless of gear, to be used to determine the Sector's allocation. Sector participants are required to use hook gear once in the Sector and the maximum share of the GB cod TAC that the Sector can be allocated is twenty percent.

FW 41 allows access to the CA I SAP to non-Sector vessels. As a result, FW 41 resulted in the decline of catch and consequently revenue (approximately \$2.9M in FY 2004 and approximately \$2.2M in FY 2005) to the GB Hook Sector membership. In response to this decline, the Sector negotiated with common pool vessels in an attempt to maintain product value by eliminating a derby style fishery. The two sides negotiated a split season. The TAC and season was split in two. Sector and non-Sector vessels will alternate seasons on an annual basis. As the TAC grows with the haddock resource, expansion of the area and the season may be considered.

Framework adjustment 42 (FW 42) was initiated following the 2005 assessment of groundfish stocks (see Section 3.1 for stock status information). Eight stocks were found to be experiencing overfishing (GB Yellowtail, CC/GOM Yellowtail, SNE/MA Yellowtail, White Hake, SNE winter, GB winter, GOM cod and GB cod) and as a result, the NEFMC has prepared a range of alternatives to adjust fishing mortality downward on these stocks. Alternatives being consider include DAS cuts, reduced trip limits, and differential DAS counting (2:1 in the inshore fishing areas).

Impacts of Sector following Framework Adjustments 40A, 40B, 41 and 42

The economic, social, and biological impacts of the Sector changed very little following the implementation of FWs 40A, 40B and 41. The impacts were positive, minimal, or negligible as Table 1 shows.

Sector Impacts following implementation of FW 40A

Biological impacts - FW 40A has had a positive biological impact as the Sector used approximately 200 DAS targeting GB haddock rather than GB cod while fishing in the SAP. During the SAP, Sector vessels averaged approximately 100 pounds of cod per trip, significantly less than the expected catch when targeting cod on a DAS.

Economic impacts - FW 40A has had a positive economic impact by creating an opportunity for the Sector to land approximately \$1.5 million of fish in the ports of Chatham and Harwich.

Social impacts - FW 40A has had a positive social impact as Sector members have come together to work towards ways to cooperatively harvest the haddock resource and to create branding and marketing opportunities. This industry cooperation will expand as the Common Pool joins the Sector in fishing in the SAP.

Sector Impacts following implementation of FW 40B

Biological impacts - FW 40B had minimal but positive biological impacts. Allowing non-hook GB cod landings history in the Sector did not change the overall allocation for the Sector in FY 05. However, it presents an opportunity to bring more effort under a hard TAC in a hook fishery that has minimal habitat implications.

Economic impacts - FW 40B had minimal but positive economic impacts. By allowing non-hook landings history in the Sector, the loss of eight Sector vessels for FY 05 was offset.

Social impacts - FW 40B had minimal but positive social impacts. FW 40B helped the Sector maintain viability by removing a disincentive to join the Sector.

Sector Impacts following implementation of FW 41

Biological impacts - FW 41 had minimal biological impacts. The Sector caught approximately 1.05 million pounds of haddock in the SAP in FY 04 and caught approximately 1 million pounds in the SAP in FY 05.

Economic impacts - FW 41 had a positive economic benefit as the Sector created a cooperative harvest and marketing plan by splitting the season in half, sharing the opportunity and the TAC of haddock with the common pool.

Social impacts - FW 41 had positive social benefits. Sector cooperative harvesting and internal controls offer mitigation of safety, logistical and shoreside support issues resulting from a potential derby fishery. In addition, FW 41 created cooperative harvest opportunities between the Sector and the Common Pool.

Sector Impacts following implementation of FW 42

Biological impacts - FW 42 is expected to have positive biological impacts on groundfish stocks by relieving fishing pressure to meet stock rebuilding objectives. The Sector is limited by DAS and a hard TAC on cod. The proposed reductions as part of FW 42 (including reduced trip limits and 2:1 differential DAS counting) are driven by the need to reduce effort upon yellowtail flounder, GB winter flounder and white hake stocks. Other stocks requiring reductions are not part of the approved GB Hook Sector operations area. Sector members are concerned that the proposed measures (designed to protect non-target species) apply to the Sector. Previous landings data and the Sector's own landings database show that in FY 2004 the Sector landed a total of 7 pounds of yellowtail which was 0.0000005% of the total landings. The catch rates of other non-target species by the Sector were low (>1%). The Sectors catch of GB winter flounder was 0.0002% and white hake 0.003% of total catch for fishing year 2004-2005. As such, the Sector has requested, and is currently awaiting exemption from changes in DAS use rates to be implemented to protect yellowtail, white hake and GB winter flounder.

Economic impacts - The FW 42 preferred alternative may result in a significant reduction in the opportunity for Sector participants to harvest primary target species. If severe enough, the differential DAS use rate changes could force Sector members to consider not signing into the Sector for an additional year. For the individual fisherman, the choice to fish under the GB Hook Sector agreement is based upon a sustainable fishery management ethic. However, the decision is also an economic decision. Reductions and changes to DAS may create a desire to relocate the current Sector member's business to the Gulf of Maine (outside of the Sector) or to pursue other

Regulatory Package	Applicable Regulatory Changes	Impacts / Expected Impacts			
		Biological	Economic	Social	Cumulative
Amendment 13	N/A - Status Quo	N/A - Status Quo	N/A - Status Quo	N/A - Status Quo	N/A - Status Quo
Framework 40A	Closed Area I Hook Gear Haddock SAP implementation.	Positive. SAP shifted Sector effort off of GB cod and onto GB haddock in 2004 (approx. 200 DAS with <100 lbs GB cod/DAS). Renewal will allow this to happen again.	Positive. Provided approx \$1,500,000 revenue to Chatham/Harwichport fishing industry in 2004. Ops plan renewal will allow opportunity in 2006.	Positive. Ops plan renewal will allow Sector members to experiment with cooperative harvesting in 2005 SAP, and SAP supports shoreside businesses.	Positive. Ops plan renewal offers opportunity to maximize the conservation benefits and community mitigation measures built into Amendment 13 (B-DAS usage and SAPs).
Framework 40B	Allowed vessels with no hook history to join the Sector and count non-hook landings history toward the Sector allocation calculation.	Minimal, but positive. Allowed more effort to be brought under a Hard TAC. Allowed trawl and gillnet effort to downgrade habitat and protected species impacts by switching to hook and line.	Minimal, but positive. Allowed Sector to partially offset TAC losses anticipated due to loss of approx 8 permits.	Minimal, but positive. Maximized opportunity within Sector.	Minimal, but positive. Offered the Sector valuable opportunity to maximize participation, conservation and profit.
Framework 41	Allowed Common Pool (Non-Sector) vessel access to CAI Hook Gear Haddock SAP.	Minimal, but positive. The Sector caught approximately the same amount of haddock in the SAP in FY 04 as in FY 05.	Positive. Sector cooperative harvesting and internal controls mitigated any price crash expected due to derby fishery.	Positive. Sector cooperative harvesting and internal controls offer mitigation of safety, logistical and shoreside support issues resulting from derby fishery.	Minimal, but positive. Ops plan renewal will allow Sector opportunity to attempt to safely and profitably harvest similar haddock as in FY 06 SAP.
Framework 42	Various trip limit reductions and differential DAS counting	Positive. FW42 will relieve fishing pressure to meet stock rebuilding objectives	Negative. Sector members are subject to changes in DAS management and opportunity and, consequently, suffer a loss of revenue	Minimal, but positive. The authorization for the formation of a second sector allows for a stronger community-based approach to management	Negative. Further reductions and changes DAS counting hurt the traditional GB hook fleet disproportionately
Cumulative	All measures implemented and contemplated for Frameworks 40A, 40B and 41 taken cumulatively.	Minimal, but positive. Similar amount of GB cod under hard TAC, but potential for some conversion of trawl and gillnet effort to hook and line. Effort shift from GB cod to GB haddock may produce conservation benefit.	Minimal, but positive. Similar size Sector will see similar economic benefit from FY 05 SAP by applying internal cooperative harvesting and harvest controls.	Minimal, but positive. Similarly structured Sector will continue mutualistically beneficial relationship with community, and seek to maximize safety in FY2005 SAP.	Minimal, but positive. Sector will reap positive impacts from SAP participation, but will harvest approximately the same amount of GB haddock. GB cod allocation in FY 05 will be similar to FY 04 (10-13%).

Table 1. Impacts/Expected Impacts of Sector Operations Plan Renewal on the Affected Environment, in Regulatory Context

opportunities (e.g., gear change or leasing of DAS). Both of these options are not permitted of members of the Sector. In order to make this decision, a current member would need to leave the Sector.

Social impacts – Notwithstanding the previous comments, FW 42 is expected to result in minimal, but positive social benefits to the Sector with the approval of a second Sector (and as such, another group of local fishermen coming under a hard TAC), the Georges Bank Cod Fixed Gear Sector. A net increase in GB cod managed under a true HARD TAC system improves the likelihood that the GB cod stock will stabilize and eventually rebuild. The premise of the two sectors is that a healthy GB cod stock equals a healthy coastal community.

Summary of Regulatory Environment

Recent changes to the NE Multispecies FMP (Framework 40A) provided access (exclusive) to Closed Area I (CAI) for the GB Hook Sector in a directed haddock Special Access Program (SAP). The SAP provided a significant contribution to the Sector members' annual catch and the overall economic viability of hook fishing on Georges Bank. The paucity of cod will continue to require alternatives for the hook and line fishery on Georges Bank. Additionally, FW 40B modified the eligibility criteria and allocation formula for the GB Hook Sector. Amendment 13 established the GB Cod Hook Sector and allocates GB cod to the Sector based on the history of the Sector participants. As implemented, only permits with a past history of using hook gear can join the Sector, and only cod landed using hook gear is used to determine the Sector's cod allocation. FW 40B modified these requirements by allowing any vessel to join the Sector and all cod landings of Sector participants, regardless of gear, is used to determine the Sector's allocation. Sector participants are required to use hook gear once in the Sector and the maximum share of the GB cod TAC that the Sector can be allocated to the Sector is twenty percent.

Framework 41 allowed access to the CAI Hook Haddock SAP to common pool vessels. The SAP is bounded in time (Oct 1 – Dec 31) and by a Hard TAC (1000mt). The potential for a derby between Sector and non-Sector vessels was mitigated by a negotiated split of TAC and time. Sector members fished the first part of the season and landed approximately 1 million pounds of haddock. This was a nominal reduction in the previous year's performance.

Regulatory changes as part of FW 42 will disproportionately impact Sector participants by reducing the allocation of DAS through a combination of differential counting and a change in the allocation between A and B DAS. This may threaten the economic viability of hook fishing on GB. In addition, the Sector is currently awaiting exemption from the regulatory measures designed to protect non-target species of the Sector, which would partially alleviate the aforementioned disproportional impact of FW42.

2.0 AFFECTED ENVIRONMENT

This section contains information on the biological, habitat, social and economic environments affected by the proposed action. Since the approval of the GB Sector for the 2004-05 fishing year, baseline information for the affected resources, aside from the status of groundfish stocks, as described in the Affected Environment Section of the 2004-05 EA (Section 3.0) have not significantly changed and are described herein. The status of the stocks section has been updated to reflect the latest information from the GARM II (starting at section 3.2.3)

2.1 BIOLOGICAL ENVIRONMENT

The proposed action would affect the NE Multispecies fishery and would be restricted to the Georges Bank stocks for all those component species thereof for which distinctions are made.

2.1.1 TARGET SPECIES

The target species for the Sector are GB cod and haddock.

Atlantic Cod (*Gadus morhua*) is split into two distinct management units under the NE Multispecies FMP: Gulf of Maine cod and Georges Bank cod. Little interchange occurs between the two (NOAA Technical Memorandum NMFS-NE-124). No changes are proposed in the management regime for Gulf of Maine cod, nor will this stock be accessible to participants in the proposed action. The target species is Georges Bank cod.

The Atlantic cod (Figure 1) is distributed in the northwest Atlantic Ocean from Greenland to Cape Hatteras, North Carolina. In U.S. waters, densities are highest on Georges Bank and the western Gulf of Maine. It occurs from nearshore areas to depths exceeding 400 m (rarely). The greatest concentrations off the northeast coast of the U.S. are on rough bottoms in waters between 10 and 150 m and at temperatures between 0 and 10°C.” (NOAA Technical Memorandum NMFS-NE-124)

Atlantic cod attain ages of 20 years, although most enter fisheries at ages 2-5. They can grow to lengths of 130 cm and weights of 25-35 kg and average 26 cm by the end of their first year. Median age at sexual maturity is 1.7-2.3 years at lengths between 32 and 41 cm (O’Brien *et al.* 1993). Fecundity is high and a large female may produce between 3 and 9 million eggs. Spawning occurs near bottom during winter and early spring, usually in water temperatures between 5 and 7°C. Eggs are pelagic and drift for 2-3 weeks before hatching. The larvae are also pelagic until they reach 4-6 cm in about 3 months, whence they descend to the bottom. (NOAA Technical Memorandum NMFS-NE-124).

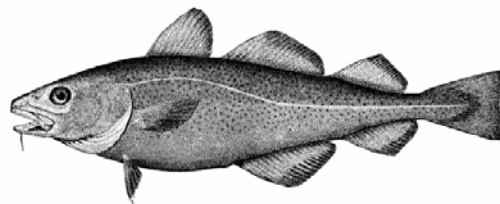


Figure 1- The Atlantic Cod (*Gadus morhua*) from Goode 1884

Haddock (*Melanogrammus aeglefinus*) is a demersal gadoid species distributed on both sides of the North Atlantic. In the western North Atlantic, haddock range from Greenland to Cape Hatteras. Highest concentrations off the U.S. coast are associated with the two major stocks located on Georges Bank and in the southwestern Gulf of Maine. Haddock are most common at depths of 45 to 135 m (25 to 75 fathoms) and temperatures of 2° to 10°C (36° to 50°F). Haddock exhibit age-dependent shifts in habitat use with juveniles occupying shallower water on bank and shoal areas, and larger adults associated with deeper water. Adult haddock do not undertake long migrations, but seasonal movements occur in the western Gulf of Maine, the Great South Channel and on the northeast peak of Georges Bank. Haddock prey primarily on small invertebrates, although adult haddock will occasionally consume fish.

Growth and maturation rates of haddock have changed significantly over the past 30 to 40 years. During the early 1960s, all females age 4 and older were fully mature, and approximately 75% of age 3 females were mature. Presently, growth is more rapid, with haddock reaching 48 to 50 cm (19-20 in.) at age 3; and nearly all age 3 and 35% of age 2 females are mature. Although early maturing fish increase spawning stock biomass, the degree to which these younger fish contribute to reproductive success of the population is uncertain. Spawning occurs between January and June, with peak activity during late March and early April. An average sized (55 cm, 22-in.) female produces approximately 850,000 eggs, and larger females are capable of producing up to 3 million eggs annually. Spawning concentrations occur on eastern

Georges Bank, to the east of Nantucket Shoals and along the Maine coast. Juvenile haddock remain pelagic for several months before settling to the bottom. ([Status of the fishery resources off the Northeastern United States](#), by the Resource Evaluation and Assessment Division NEFSC 2000, Brown Russel)

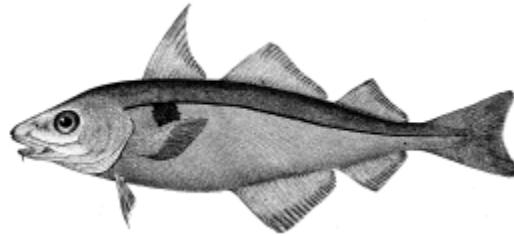


Figure 2- The Haddock (*Melanogrammus aeglefinus*)

2.1.1.1 MULTISPECIES STOCK ANALYSIS AND STATUS OF TARGET SPECIES

Groundfish assessments are usually prepared by the Stock Assessment Workshop (SAW) and reviewed by the Stock Assessment Review Committee (SARC). Assessments focus on individual stocks with a gap of several years common between updates, and the NEFMC Multi-Species Monitoring Committee will compile assessment data, conduct projections if necessary, and report to the Council. Analysis conducted for Amendment 13 relied upon the report of the Groundfish Assessment Review Meeting (GARM) of October 2002.

The most recent groundfish stock assessments were performed in August 2005 (GARM II). Of nineteen managed groundfish stocks, the assessments found that fishing mortality for seven stocks exceeded Amendment 13 targets. As a result, the NEFMC is preparing FW 42. While it is premature to identify the ultimate action that will be taken, the range of alternatives under consideration would reduce fishing effort (e.g. reduce DAS allocation) on multispecies in order to meet stock rebuilding targets.

Georges Bank Cod Stock Status

Georges Bank Atlantic cod are overfished and overfishing is occurring. Fishing mortality has been steadily declining since 1997, except for a slight increase in 2001, and is currently at the lowest exploitation in the time series. Spawning stock biomass reached a record low in 1995 and slowly increased, primarily due to growth, until 2001. Since 2001, however, SSB has been declining. The 2002-2004 F trajectory is less than that projected for A13 and the SSB is slightly higher than the A13 projection (Figure 3). Catch during 2002-2004 was also less than the A13 projection.

The 1999 and 1998 year class accounts for the majority of the US catch and the 1998 year class accounts for the majority of the Canadian catch in 2004. The 1998 (12.8 million age 1 fish) year class, while below the long term average (14.7 million age 1 fish), represents the strongest year class since the last above-average year class that occurred in 1990 (17.8 million age 1 fish). The 2000, 2001, and 2002 year classes are among the lowest in the time series. The 2003 (21.2 million age 1 fish) year class is the first above average year class since the 1990 and will enter the fishery during 2005.

The NEFSC and DFO survey biomass and abundance indices fluctuated during 2002 to 2005, however, all the indices continue to remain below the long term average. The most recent NEFSC surveys indicate that the 2003 year class may be similar in size to the 1998 year class, and the DFO spring survey indicates that the year class is above average.

The lack of strong recruitment in the last decade suggests that recovery of this stock will be largely dependent on reducing fishing mortality in the near term and husbanding the strong 2003 year class, and potentially the 2004 year class, to increase SSB. (Georges Bank Atlantic Cod by L. O'Brien, N. J. Munroe, L. Col-GARM II, NEFSC, 2005)

Georges Bank Haddock Stock Status in 2004

In 2004, spawning biomass was 116,800 mt (93% of BTHRESHOLD and 47% of BMSY). Therefore, the Georges Bank haddock stock was overfished in 2004 (Figure 3). In 2004, the fishing mortality was 0.24 (92% of FTHRESHOLD). Therefore, overfishing was not occurring on the Georges Bank haddock stock in 2004 (2005 GARM).

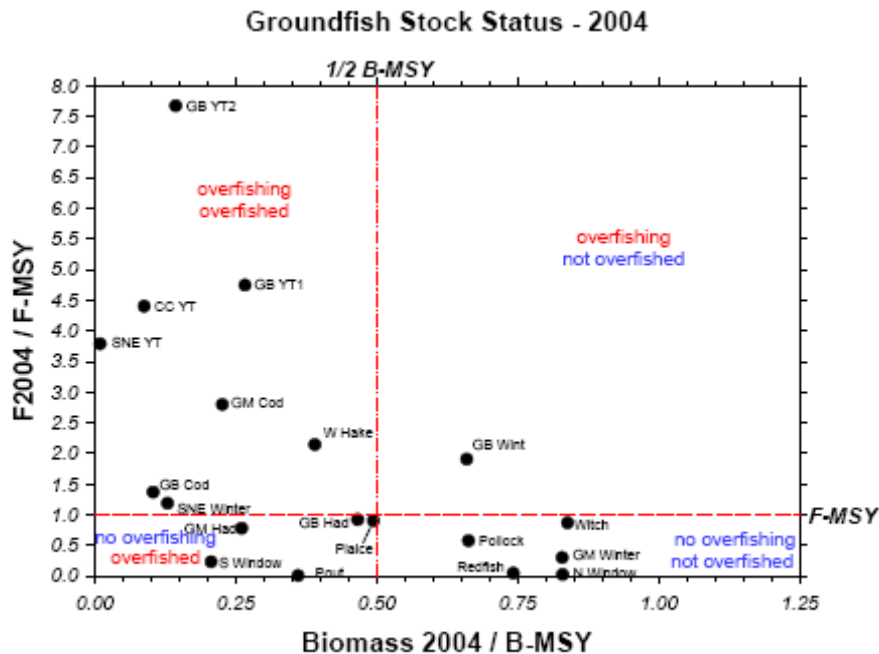


Figure 3- Groundfish Stocks Status 2004 (2005 GARM), NEFSC

The projected Amendment 13 rebuilding trajectory for Georges Bank haddock was compared to VPA estimates of spawning biomass and fishing mortality in 2004. For this stock, an adaptive rebuilding plan was adopted in which $F_{REBUILD} = F_{MSY} = 0.26$ during 2004-2008. Median spawning biomass on the rebuilding trajectory was projected to be 129.8 kt in 2004. For comparison, the 80% confidence interval based on bootstrapping was (0.21, 0.31) and the $F_{REBUILD}$ value for 2004 falls within the probable range of the VPA estimate of F_{2004} . Similarly, the 80% confidence interval for SSB_{2004} was (97.9, 138.8) kt and the $SSB_{REBUILD}$ in 2004 falls within the probable range of the VPA estimate of SSB_{2004} . Overall, this suggests that current estimates of F and SSB are consistent with projected values on the rebuilding trajectory (Georges Bank Haddock by Jon Brodziak, Michele Traver and Laurel Col-GARM II, NEFSC 2005).

2.1.2 NON-TARGET SPECIES

Non-target species that may be affected by this action are identified as other species that are part of the northeast multispecies complex. In total, the NE Multispecies (Groundfish) FMP manages 15 species and 24 stocks of finfish. These species are generally separated into “large-mesh species” and “small-mesh

species.” (Figure 4). The various components of the complex can be found throughout the affected area and except for those stocks managed according to regulations specific to the Gulf of Maine, together represent the Groundfish species subject to fishing effort described in the proposed action.

The following information from the Amendment 13 FSEIS, Figure 3 above and the 2005 GARM describe the current biological environment as related to stocks in the Northeast Multispecies complex other than GB cod and haddock:

2005 GARM II Stock Assessment Results (NEFSC 2005)

Of the 18 stocks for which FMSY (or its proxy) could be estimated, 10 were fished below FMSY in 2004, and 8 above. Additionally, the biomasses of 6 of the 19 stocks for which BMSY (or its proxy) could be estimated were at or above $\frac{1}{2}$ BMSY, while the biomasses of 13 stocks were below the threshold (2005 GARM).

Stock biomasses have increased in only 6 of the 19 stocks since 2001. For the six stocks that increased in biomass between 2001 and 2004, the average increase was 50%. For the remaining stocks, the average decrease was 19%. For Georges Bank yellowtail flounder, alternative model formulations were used for assessment (denoted as GB YT1 and GB YT2, see Chapter C). One model suggested that the biomass increased (GB YT1) while the other (GB YT2) suggested a decrease. If model GB YT1 is used then 7 stocks increased. Landings of the complex of 19 groundfish stocks have declined by 7% since 2002, driven primarily by decreases in landings of Georges Bank cod and American plaice but offset primarily by increases in landings of Georges Bank haddock and pollock. Fishing mortality (F) rates declined for 13 of 19 stocks between 2001 and 2004. For the 13 stocks where F declined, the average percent decline was 50% (range: 1% to 80%). For the 6 stocks where F increased, the average percent increase was 49% (range: 31% to 73%). The 6 stocks showing increases in F since 2001 were Georges Bank haddock (39%), Georges Bank yellowtail flounder (GB YT2 140%), Gulf of Maine cod (75%), Georges Bank winter flounder (50%), Gulf of Maine haddock (50%), and Atlantic halibut (50%).

Four stocks continue to exhibit high fishing mortality rates compared to their FMSY reference levels. Cape Cod/Gulf of Maine and Southern New England/Mid-Atlantic yellowtail flounder fishing mortality rates in 2004 were at least three times their respective FMSY levels, compared to over five times the FMSY levels in 2001. Gulf of Maine cod and white hake experienced fishing mortality levels in 2004 that were at least two times their respective FMSY levels. Mortality for these two stocks has increased since 2001. Fishing mortality for these four stocks also exceeded Amendment 13 targets for fishing years 2004-2005. Cape Cod/Gulf of Maine yellowtail flounder, Gulf of Maine Cod, and Southern New England/Mid-Atlantic yellowtail flounder were about three times the Amendment 13 targets, while white hake was 15% above the Amendment 13 target.

“Large-Mesh Species” = 12 Species, 19 Stocks

Atlantic Cod:	two stocks; GOM cod and GB cod
Haddock:	two stocks; GOM haddock and GB haddock
Yellowtail Flounder:	three stocks; GB YT, CC YT, and SNE YT
Winter Flounder:	three stocks; GOM winter, GB winter, and SNE/MA winter
Windowpane Flounder:	two stocks; GOM/GB windowpane and SNE/MA windowpane
Witch Flounder:	one stock; distributed primarily in the GOM and on GB
American Plaice:	one stock; distributed primarily in the GOM
Redfish:	one stock; distributed primarily in the GOM and southern GB
Pollock:	one stock; distributed in the GOM, GB, and SNE
White Hake:	one stock; distributed primarily in the GOM and southern GB
Atlantic Halibut:	one stock; distributed primarily in the GOM and on GB
Ocean Pout:	one stock; distributed throughout region

“Small-Mesh Species” = 3 Species, 5 Stocks

Silver Hake (Whiting):	two stocks; GOM/northern GB whiting, and southern GB/SNE whiting
Red Hake:	two stocks; GOM/northern GB red hake, and southern GB/SNE red hake
Offshore Hake:	one stock; distributed primarily offshore in SNE and MA

Figure 4 – The Northeast Multispecies Groundfish Complex (NEFMC Groundfish FAQ)

Two additional stocks, Georges Bank yellowtail flounder and Georges Bank winter flounder, exhibited fishing mortality rates in 2004 that are well above their respective FMSY levels. The 2002 GARM assessments indicated that fishing mortality in 2001 for both of these stocks was less than FMSY. The current assessments, however, now estimate that in 2001 Georges Bank yellowtail flounder fishing mortality was three times the FMSY level, and Georges Bank winter flounder mortality was above FMSY.

The number of stocks where biomass was below $\frac{1}{2}$ BMSY remained the same, 12 below and 6 at or above $\frac{1}{2}$ BMSY, although there were changes in the stock composition of the categories. The number of stocks where F exceeded FMSY declined from 11 in 2001 to 8 in 2004 and the number of stocks where biomass was below $\frac{1}{2}$ BMSY and F exceeded FMSY declined from 9 in 2001 to 7 in 2004. Direct comparisons between the state of these stocks in 2001 and 2004 are also provided in Figures 3 and 4. Stocks showing substantial decreases in the ratio of F to FMSY include Georges Bank Cod, Southern New England/Mid Atlantic and Cape Cod/Gulf of Maine yellowtail flounder, Gulf of Maine winter flounder, Southern New England/Mid Atlantic winter flounder, witch flounder, and American plaice. For stocks with F to FMSY ratios above one, fishing mortalities have increased for Gulf of Maine cod, Georges Bank yellowtail flounder and Georges Bank winter flounder. Stocks showing substantial increases in the ratio of B to BMSY include Gulf of Maine winter flounder, witch flounder, pollock, and redfish. Georges Bank haddock and white hake also increased in biomass but are still below $\frac{1}{2}$ BMSY.

Stocks where the ratio of B to BMSY have decreased by more than 25% include Southern New England/Mid Atlantic yellowtail flounder, Cape Cod/Gulf of Maine yellowtail flounder, Gulf of Maine haddock and ocean pout. (Executive Summary-GARM II, NEFSC 2005)

Non-target Species Interactions

Table 2 summarizes other species that Sector members are likely to catch, based on prior landings reports. Sector members will be employing gear that has been used for decades to catch GB cod and haddock.

Species	
Witch Flounder	Ocean Catfish
Yellowtails	Redfish
Monkfish	Skate
Plaice	White Hake
Halibut	Dogfish
Winter Flounder	Pollock

Table 2- Non-target species hook gear interactions

2.1.3 PROTECTED SPECIES

For the purposes of this EA, protected species are assumed to be those species outside the Northeast Multispecies Groundfish Complex that are endangered, threatened, or candidate species under the Endangered Species Act (ESA), or protected under the Marine Mammal Protection Act (MMPA), or both, and that are known to exist in the area affected by the proposed action. Furthermore, this section will include certain Marine Mammal Critical Habitat Designations and bird species protected under the Migratory Bird Act of 1918 (NEFMC, Am 13 FSEIS, Section 9.2.2). Finally, it will include those skate species with prohibitions on possession in place under the Northeast Skate Complex FMP. Table 3 lists the protected species known to exist in the affected area.

Species in Table 3 known to interact with the hook fishery are the humpback whale, harbor seal, gray seal, barndoor skate and thorny skate. Protected species that occur within the affected area that are not known to interact with the hook fishery are not discussed further in this EA. Brief descriptions of the affected species follow, and further information on these species and the others in Table 3 can be found in Section 9.2.2 of the NEFMC Amendment 13 Final Supplemental Environmental Impact Statement.

Humpback whales inhabit pelagic and coastal habitats, and are known to migrate to summer feeding grounds from the mid-Atlantic to the GOM; approximately 300-700 use U.S Atlantic waters (Wynne and Schwartz, 1999). They attain a length of 11-16 meters and a weight of 40 tons, and feed mainly on bait fish and krill (Wynne and Schwartz, 1999). There has been one documented interaction between longline gear and a humpback whale. This interaction took place in the Gulf of Maine; there have been no documented interactions of benthic longline gear and large cetaceans on Georges Bank.

Gray seals are approximately 2 meters long, weighing 200-300 kilograms, and their western north Atlantic population, centered mainly in eastern Canada, includes growing numbers in Massachusetts and Maine, where they are using sandy haul outs for pupping and molting (Wynne and Schwartz, 1999). They feed mainly on schooling fish, squid and octopus (Wynne and Schwartz, 1999). Harbor seals often associate with gray seals (Wynne and Schwartz, 1999), and can be found in mixed groups with gray seals in the affected area. They range from 1.7-1.9 meters and weigh approximately 120 kilograms (Wynne and Schwartz, 1999). Diet is similar to harbor seals. Interactions have been recorded between bottom longline gear and gray and harbor seals, again in the GOM bottom longline fishery, however these interactions were not classified as takes. The GOM bottom longline fishery is listed in category III of the MMPA List of Fisheries for 2003. Category III fisheries have a “remote likelihood” of an incidental take of a protected marine mammal (Department of Commerce, 2003).

Barndoor skate is known to interact with the bottom longline fishery, but these skates are not retained; they are released alive at the rail of the vessel. Barndoor skates are classified as a large skate under the Northeast Skate Complex FMP; indeed they are one of the largest skate species in New England. They

are found throughout the affected area, and are considered abundant on Georges Bank and Nantucket Shoals (Bigelow and Schroeder, 2002). Barndoor skates have been considered for listing under the ESA, and although the petition for listing was determined to be not warranted as of September 2002, they were left on the candidate list at that time because of concerns about status and population structure (NEFMC, 2003). There is currently a possession prohibition under the Northeast Skate Complex FMP.

<i>Cetaceans</i>	<i>Status</i>
Northern right whale (<i>Eubalaena glacialis</i>)	Endangered
Humpback whale (<i>Megaptera novaeangliae</i>)	Endangered
Fin whale (<i>Balaenoptera physalus</i>)	Endangered
Blue whale (<i>Balaenoptera musculus</i>)	Endangered
Sei whale (<i>Balaenoptera borealis</i>)	Endangered
Sperm whale (<i>Physeter macrocephalus</i>)	Endangered
Minke whale (<i>Balaenoptera acutorostrata</i>)	Protected
Harbor porpoise (<i>Phocoena phocoena</i>)	Protected
Risso's dolphin (<i>Grampus griseus</i>)	Protected
Pilot whale (<i>Globicephala</i> spp.)	Protected
White-sided dolphin (<i>Lagenorhynchus acutus</i>)	Protected
Common dolphin (<i>Delphinus delphis</i>)	Protected
Spotted and striped dolphins (<i>Stenella</i> spp.)	Protected
Bottlenose dolphin (<i>Tursiops truncatus</i>)	Protected
<i>Seals</i>	
Harbor seal (<i>Phoca vitulina</i>)	Protected
Gray seal (<i>Halichoerus grypus</i>)	Protected
Harp seal (<i>Phoca groenlandica</i>)	Protected
<i>Sea Turtles</i>	
Leatherback sea turtle (<i>Dermochelys coriacea</i>)	Endangered
Kemp's ridley sea turtle (<i>Lepidochelys kempii</i>)	Endangered
Green sea turtle (<i>Chelonia mydas</i>)	Endangered
Hawksbill sea turtle (<i>Eretmochelys imbricata</i>)	Endangered
Loggerhead sea turtle (<i>Caretta caretta</i>)	Threatened
<i>Fish</i>	
Shortnose sturgeon (<i>Acipenser brevirostrum</i>)	Endangered
Atlantic salmon (<i>Salmo salar</i>)	Endangered
Barndoor skate (<i>Dipturus laevis</i>)	Candidate Species/Possession Prohibition
Thorny Skate (<i>Amblyraja radiata</i>)	Possession Prohibition
<i>Birds</i>	
Roseate tern (<i>Sterna dougallii dougallii</i>)	Endangered
Piping plover (<i>Charadrius melodus</i>)	Endangered
<i>Critical Habitat Designations</i>	
Right whale Cape Cod Bay	
Great South Channel	

Table 3- Protected species known to exist in the area affected by the proposed action (NEFMC, Am 13 FSEIS, Section 9.2.2)

Thorny skates are also known to interact with the hook fishery, but they are not retained; thorny skates are released alive at the rail of the vessel. See Section 3.2.8 for a description of the Thorny skate.

2.1.3.1 STATUS OF PROTECTED SPECIES

With the exception of the Thorny Skate (*Amblyraja radiate*) information on the biological status of the species listed in Table 3 can be found in Section 9.2.2 of the NEFMC Amendment 13 Final Supplemental

Environmental Impact Statement. Thorny skate is the only species of skate that is caught by hook gear, and therefore its status is summarized below.

2.1.3.1.1 STATUS OF THORNY SKATE (*AMBLYRAJA RADIATA*)

Thorny skates, also known as Mud Skate, Starry Skate or Spanish Skate, inhabit areas along the 100 fm edge of Georges Bank, with very few found in Massachusetts (NEFMC- Northeast Skate Complex Final FMP). In fact, though frequently captured on Georges Bank, they are more likely to be encountered in the Gulf of Maine, as its most common skate (Bigelow and Schroeder, 2002). Thorny skates are classified as a large skate (>100 cm TL) under the FMP. They are distinguished by the presence of 11-19 thorns arranged in a row along the center of the disc and tail.

Thorny skates are found over a wide variety of bottom types from sand to mud at depths of 10 to 600 fathoms, and feed on a variety of benthic invertebrates and fishes. They are not highly migratory (Bigelow and Schroeder, 2002). They were a commercially important skate, however they are currently classified as overfished (NEFMC- Northeast Skate Complex Final FMP), and bound to a formal rebuilding program by the FMP. As such current regulations prohibit the possession of thorny skates on all vessels fishing in federal waters.

2.2 PHYSICAL ENVIRONMENT AND HABITAT

The geographic boundaries of the management area are described by Figures 5a and 5b: The Georges Bank Cod Hook Sector Area (GBCHSA) is defined by straight lines connecting the waypoints in the order stated in Figure 5a:

GEORGES BANK COD HOOK SECTOR AREA

Point	N. lat.	W. long.
HS1	70°00'	(1)
HS2	70°00'	42°20'
HS3	67°18.4'	42°20' ³
Follow the U.S. EEZ boundary south to HS3.		
HS3	66°45.5'	39°00'
HS4	71°40'	39°00'
HS5	71°40'	(2)

¹ The east facing shoreline of Cape Cod, MA.
² The south facing shoreline of Rhode Island.
³ (the U.S. Canada Maritime Boundary).

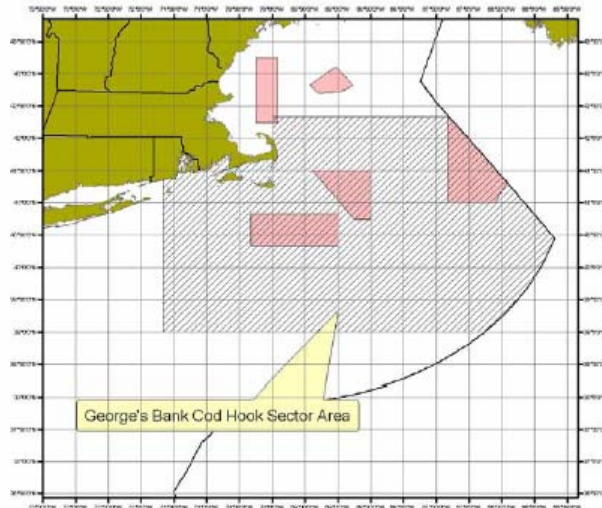


Figure 5a. Waypoint description of the GBHSA (Department of Commerce-2004)

Figure 5b- Map of the GBHSA (Department of Commerce, 2004)

2.2.1 NORTHEAST SHELF ECOSYSTEM

The Northeast Shelf Ecosystem (Figure 6) has been described as including the area from the Gulf of Maine south to North Carolina, extending from the coast seaward to the edge of the continental shelf, including the slope sea offshore to the Gulf Stream (Sherman et al. 1996). A number of distinct sub-

systems comprise the region, including the Gulf of Maine, Georges Bank, the Mid-Atlantic Bight, and the continental slope. Georges Bank is a relatively shallow coastal plateau that slopes gently from north to south and has steep submarine canyons on its eastern and southeastern edge. It is characterized by highly productive, well-mixed waters and strong currents. (NEFMC, Am. 13 FSEIS, Section 9.1.1)



**Figure 6- The Affected Ecosystem
(NEFMC, Am. 13 FSEIS, Section 9.1.1)**

2.2.2 GEORGES BANK

Georges Bank is of primary concern as its physical boundaries contain and correlate to the management units affected by the proposed action.

Georges Bank is a shallow (3-150 m depth), elongate (161 km wide by 322 km long) extension of the continental shelf. It was formed by the Wisconsinian glacial episode and is characterized by a steep slope on its northern edge and a broad, flat, gently sloping southern flank; the Great South Channel lies to the west and the Northeast Channel lies to the northeast. The nature of the seabed sediments varies widely and ranges from clay to gravel. Natural processes continue to erode and rework the sediments on Georges Bank while strong, erosive currents affect the character of the biological community. These currents (greater than 4 km per hour and as high as 7 km per hour) occur predominantly near the shallow, central region of the bank where shoals and troughs characterize the bottom and sand dunes are superimposed upon them. The two most prominent elevations in this area are Cultivator and Georges Shoals. The area west of the Great South Channel, known as Nantucket shoals, is similar in nature to the central region of the bank. Currents in these areas are strongest where water depth is shallower than 50 m. (NEFMC, Am 13 FSEIS, Section 9.1.1.2)

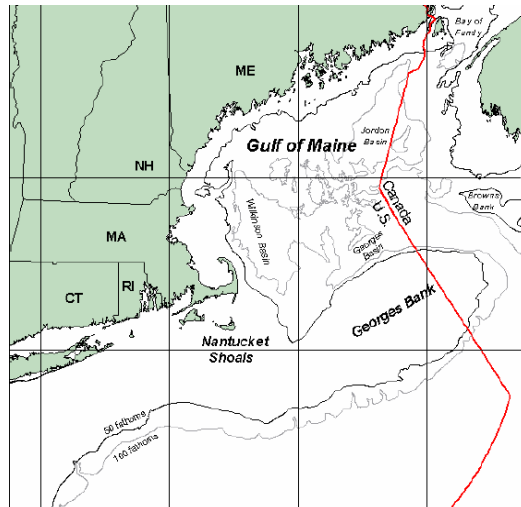


Figure 7- The New England region, including Gulf of Maine, Georges Bank, and Nantucket Shoals. (NEFMC, 1998)

2.2.2.1 GEORGES BANK WATER COLUMN HABITAT

Oceanographic frontal systems occur between water masses from the Gulf of Maine and Georges Bank. These water masses differ in temperature, salinity, nutrient concentration, and planktonic communities, which influence productivity and may influence fish abundance and distribution. Currents on Georges Bank include a weak, persistent clockwise gyre around the bank, a strong semidiurnal tidal flow predominantly northwest and southeast, and very strong, intermittent storm-induced currents, which can all occur simultaneously. Tidal currents over the shallow top of Georges Bank can be very strong, and keep the waters over the bank well mixed vertically. This results in a tidal front that separates the cool waters of the well-mixed shallows of the central bank from the warmer, seasonally stratified shelf waters on the seaward and shoreward sides of the bank. The clockwise gyre is instrumental in distribution of the planktonic community, including larval fish.

Currents and tides may also generate fronts, eddies, and divergence and convergence zones that may provide suitable habitat conditions to a suite of organisms. Fronts, eddies, and other convergence zones may function as a congregation area for complexes of organisms and influence the population dynamics of a region. Planktonic organisms may be especially influenced by the circulation of water masses (e.g. transport mechanism). Congregation zones may include areas of high primary productivity, high plankton concentrations, and efficient foraging habitats for larval fishes and other planktonic organisms. Larger organisms may also target fronts and eddies to prey upon the high density of planktonic organisms. Convergence zones (e.g. two currents coming together) may also act as transport mechanisms, supplying food-rich surface waters to the seafloor. Divergence zones (e.g. currents moving away from each other), including upwelling events, have been associated with phytoplankton blooms. Divergence zones transport nutrient-rich bottom waters to the sea surface and promote primary production. These oceanographic features may provide necessary habitat conditions for the survivability, development, and growth of a variety of organisms at particular ontogenetic stages. Other physical oceanographic properties may contribute to pelagic habitat conditions, such as stratified water layers (e.g. thermoclines, haloclines, and pycnoclines), internal waves, plumes (e.g. riverine discharge). Physical oceanography constitutes several roles that influence several aspects of fishery resources and habitat conditions, including the transporting planktonic organisms and water masses throughout New England waters. Population dynamics and habitat conditions in New England are greatly influenced by oceanographic processes. (NEFMC, 1998).

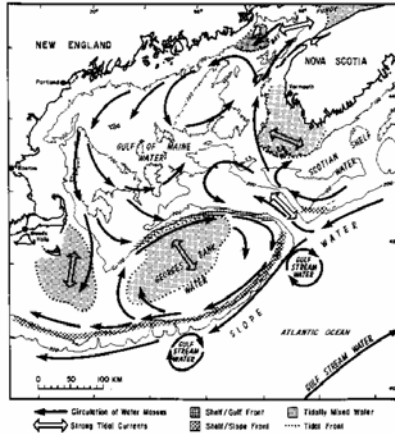


Figure 8- Map showing water mass circulation patterns in the Georges Bank – Gulf of Maine region. (Figure reproduced from Valentine and Lough 1991, in NEFMC- EFH Omnibus Amendment, 1998)

2.2.2.2 GEORGES BANK BENTHIC HABITAT

Sedimentary composition of the ocean floor is highly variable in the Gulf of Maine, Georges Bank, and southern New England (Figure 9). Sediments differ in origin, texture, size, transport mechanism, and distribution. Bottom habitats in New England waters are heterogeneous, characterized by patchy surficial sediment composition and irregular topographic peaks.

The following classification, excerpted from the NEFMC EFH Omnibus Amendment, 1998, is useful in forming an overview of habitat conditions in New England waters, based on habitat complexity. Its descriptions can support the information in Figure 7 and Table 4 in forming a picture of the surficial conditions in the affected environment:

- *smooth sand or mud*: areas with no vertical structure
- *sand waves*: troughs and peaks provide shelter from current; previous observations indicate species such as whiting position themselves on the downcurrent sides of sand waves where they ambush drifting demersal zooplankton and shrimp
- *biogenic structures*: burrows, depressions, cerianthid anemones, hydroid patches; features that are created and / or used by mobile fauna for shelter
- *shell aggregates*: provide complex small interstitial spaces for shelter; shell aggregates also provide a complex high contrast background which may confuse visual predators
- *pebbles and cobbles*: provide small interstitial spaces and may be equivalent in shelter value to shell aggregates
- *pebbles and cobbles with attached megafauna*: attached fauna such as sponges provide additional spatial complexity for a wider range of size classes of mobile organisms
- *partially buried boulders*: while not providing small interstitial spaces or deeper crevices, partly buried boulders exhibit high vertical relief; the shelter value of this type of habitat may be less or greater than previous types based on the size class and behavior species
- *piled boulders*: this habitat provides deep interstitial spaces of variable sizes.

Emergent epifauna often contribute to the survivorship of marine organisms because of the increased cover and habitat complexity they provide (NEFMC, 1998). Bottom topography, along with sediment type, may also influence the distribution and abundance of benthic, demersal, and pelagic organisms. Geologic features such as submarine canyons, rock ledges, and topographic peaks are potential habitat components that are potentially important to a variety of marine organisms. Bottom

topography is often associated with particular sediment types (e.g. deep-water canyons and fine sediments), and may contribute to suitable environmental conditions for the survivorship, growth, and reproduction of fishery resources. (NEFMC, 1998).

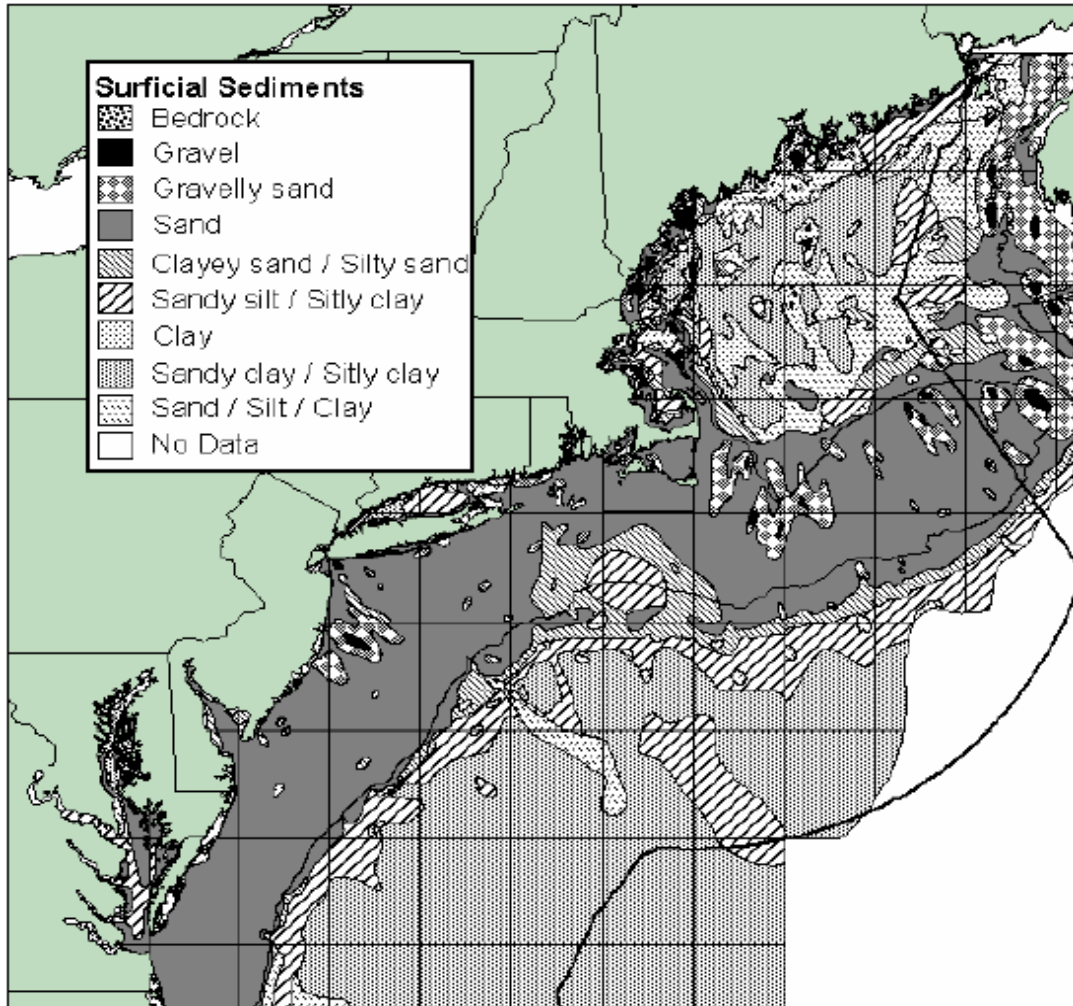


Figure 9- Map showing distribution of surficial sediments, Gulf of Maine, Georges Bank, and southern New England. (NEFMC, 1998).

SEDIMENT TYPE	REGION
bedrock	GOM
gravel ¹	GOM, GB ² , SNE ³
gravel-sand	GOM, GB, SNE
sand	GOM, GB, SNE
clayey sand/silty sand	GOM, GB, SNE
sandy silt/clayey silt	GOM, SNE
clay	GOM, GB
sandy clay/silty clay	GOM, SNE
sand/silt/clay	GOM, SNE

KEY
1 gravel includes cobble and boulders
2 boulders common on the northern edge and northeast Peak of GB (Valentine and Lough 1991)
3 SNE (southern New England) is geologically similar to the middle Atlantic bight
* sediment classifications from Poppe <i>et al.</i> (1989)

Table 4: Type of surficial sediment* observed on the seafloor of the New England region.(NEFMC, 1998).

2.2.3 ESSENTIAL FISH HABITAT

According to the 1996 SFA Amendments to the Magnuson Act, Essential Fish Habitat (EFH) “means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” (Department of Commerce, 1996) The EFH Final Rule identifies adverse impacts as “any impact that reduces quality and/or quantity of EFH. Adverse effects may include direct (e.g. contamination or physical disruption), indirect, (e.g. loss of prey, or reduction of species' fecundity), site-specific or habitat-wide impacts including individual, cumulative, or synergistic consequences of actions. Adverse effects from fishing may include physical, chemical, or biological alterations of the substrate, and loss of, or injury to, benthic organisms, prey species and their habitat, and other components of the ecosystem. (NEFMC, 2002) Furthermore, the EFH final rule states that adverse effects “that justify the implementation of management measures should be identifiable” and that the intent of EHF, “is to regulate fishing gears that reduce an essential habitat's capacity to support marine resources, not practices that produce inconsequential changes in the habitat.” (NEFMC, 2002)

Species	Life Stage	Depth	Substrate
American Plaice	A	45-150	Fine-grained sediments or substrate of sand or gravel
American Plaice	J	45-175	Fine-grained sediments or substrate of sand or gravel
Atlantic Cod	A	10-150	Rocks, pebbles, or gravel
Atlantic Cod	J	25-75	Cobble or gravel
Atlantic Halibut	A	20-60	Sand, gravel, or clay
Atlantic Halibut	J	100-700	Sand, gravel, or clay
Haddock	A	35-100	Pebble gravel
Haddock	J	40-150	<i>Broken ground, pebbles, smooth hard sand, smooth</i>
Ocean Pout	A	<110	Dig depressions in soft sediments
Ocean Pout	J	<80	<i>Smooth bottom near rocks or algae</i>
Ocean Pout	L	<50	<i>Close to nesting areas</i>
Ocean Pout	E	<50	<i>Sheltered nests in holes or crevices on hard bottom</i>
Offshore Hake	A	150-380	<i>Bottom habitats</i>
Offshore Hake	J	170-350	<i>Bottom habitats</i>
Pollock	A	15-365	Hard bottom including artificial reefs
Pollock	J	0-250	Aquatic vegetation or a substrate of sand, mud, or
Red Hake	A	10-130	Depressions with a substrate of sand and mud
Red Hake	J	<100	Shell fragments and live scallops
Redfish	A	50-350	Silt, mud, or hard bottom
Redfish	J	25-400	Silt, mud, or hard bottom
White Hake	A	5-325	Mud or fine-grained sand
White Hake	J	5-225	Seagrass beds or substrate of mud or fine-grained
Whiting	A	30-325	All substrate types
Whiting	J	20-270	All substrate types
Windowpane	A	1-75	Mud or fine-grained sand
Windowpane	J	1-100	Mud or fine-grained sand
Winter Flounder	A	1-100	Mud, sand, or gravel
Winter Flounder	J	1-50	Mud or fine-grained sand
Witch Flounder	A	25-300	Fine-grained substrate
Witch Flounder	J	50-450	Fine-grained substrate
Yellowtail Flounder	A	20-50	Sand or sand and mud
Yellowtail Flounder	J	20-50	Sand or sand and mud

Table 5- Depths and Substrates Associated With Essential Fish Habitats for Benthic Life Stage of 15 Species Included in the New England Multi-Species Fishery Management Plan (NEFMC, 1998).

2.2.3.1 SCOPE OF DESCRIPTION AND SOURCE OF FURTHER INFORMATION

A full description of the affected environment with regards to habitat can be found within the Environmental Assessment (EA) that accompanied Amendment 11 to the Northeast Multispecies Fishery Management Plan, Amendment 9 to the Atlantic Sea Scallop Fishery Management Plan, Amendment 1 to the Monkfish FMP, Amendment 1 to the Atlantic Salmon FMP and Sections of the Atlantic Herring FMP. This document is commonly known as the Omnibus EFH Amendment. This Amendment also contained essential fish habitat (EFH) designations for all groundfish species managed by the New England Fishery Management Council (NEFMC, Am 13 FSEIS, Section 9.0). It should be referenced for further information which is outside the scope of the description included below.

2.2.3.2 EFH DESCRIPTIONS FOR SPECIES IN AFFECTED AREA

Table 5 below summarizes the EFH designations for the target species and those other Multispecies stocks with EFH designations and describes the EFH which can be found in the affected area.

A similar description of the depth and substrate features of EFH for the remaining 18 federally-managed species with benthic life stages is not included because EFH for the 15 species that are managed under the NE Multispecies FMP already covers a broad range of habitat types. The aerial extent of EFH for the juvenile and adult stages of all 33 species includes virtually the entire Northeast shelf.

2.3 SOCIAL AND ECONOMIC ENVIRONMENT

2.3.1 BACKGROUND AND DEFINITIONS

When the Magnuson Act was amended in 1996 by the Sustainable Fisheries Act, a number of standards were identified as requisite for fishery management plans. Among them, National Standard 8 dictates “Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.” In its section on definitions, the Act defines the term "fishing community" as “a community which is substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew and United States fish processors that are based in such a community.” (Hall-Arber et al, 1998)

Despite this legal requirement, there is still a dearth of adequate data on this subject, and that which exists is open to interpretation. One of the better sources is the MIT Sea Grant report entitled “*New England’s Fishing Communities*” by Madeleine Hall-Arber et al; 1998. It describes at length the different ways to define a fishing community and how this term may or may not be designated by a geographical location. For the general purposes of this document, we are referring to fishing communities as areas where there are substantial numbers of residents who make their primary living from harvesting the sea. In particular, we are looking at three levels of fishing communities – New England as a region, the Cape and Islands as a sub-region, and Chatham/ Harwich as a community.

This section presents both social and environmental parameters of the affected environment concurrently, as by and large they are inextricably tied together to form the human environment affected by fisheries management decisions such as the proposed action.

2.3.2 SOCIAL AND ECONOMIC STATUS OF THE AFFECTED AREA

2.3.2.1 NEW ENGLAND

The entire New England region has centuries of identification as a collection of fishing communities. The New England fisherman in his yellow slicker and corn cob pipe is a world-famous stereotype, underscored by the reality of thousands of people in this region of all types, men and women, young and old, who still make a living today from harvesting the sea. Georges Bank, the Gulf of Maine and Stellwagen Bank all remain active fishing grounds where generations have ventured and many have died in pursuit of the seafood so prized by this entire region. According to the Northeast Multispecies Amendment 13 SEIS, in the year 2000 \$105 million worth of groundfish was landed by the New England fishing fleet, which consisted of 1,888 active vessels. The largest proportion of this fleet used otter trawl gear, followed by hook and line, and gill nets. New Bedford had the highest amount of landings, followed in order by Portland, Gloucester, Chatham and Boston.

The Sector has maintained a place in the groundfish fishery because the Sector has an approved Operations Plan (2 years) and the low impact of the hook fleet in general,. The Sector Operations Plan provides for an opportunity to manage at a local level, thereby creating flexibility to seek scales of efficiency. Justification for a region wide, port by port consideration of human environment impacts from the proposed action can be found in the Amendment 13 SEIS:

It is important, however, to consider the impacts of the proposed alternatives across all communities. Social impacts can be defined as the changes that a fisheries management action may create in people's way of life (how they live, work, play, and interact), people's cultural traditions (shared beliefs, customs, and values), and people's community (population structure, cohesion, stability, and character). As such, social impacts may result from changes in flexibility, opportunity, stability, certainty, safety, and other factors that are not specific to any community, but oftentimes to any individual or entity experiencing changes resulting from a fishing regulation. It is possible that the social impacts of some measures under consideration will not be experienced solely by one community group or another; rather, it is likely that some impacts will be experienced across communities, gear sectors, and vessel size classes. An example of this would be a reduction in allocated DAS if it is applied to all multispecies permit holders. Another example would be a mesh restriction for otter trawl vessels. (NEFMC, Am 13 FSEIA, Section 5.6.1.3)

2.3.2.2 PORT ANALYSIS CRITERIA AND OVERVIEW

Ports in New England were selected for consideration based on the criteria outlined in the Amendment 13 SEIS:

The communities that are likely to experience significant impacts from the alternatives under consideration include those with at least one of the following characteristics:

- an active and large multispecies fishing fleet,
- vessels and shoreside facilities that currently depend on groundfish for a substantial portion of their business,
- geographically close to areas proposed for additional seasonal or year-round closure, and
- vessels that hold a substantial amount of latent effort (inactive DAS). (NEFMC, Am 13 FSEIA, Section 5.6.1.3)

And the assignment criteria outlined in the MARFIN report as presented in the NEFMC Amendment 13 SEIS:

The port groups in this document are separated into primary and secondary groups. Primary groups are those communities that are substantially engaged in the groundfish fishery, as explained above, and which are likely to be the most impacted by groundfish management measures. Secondary groups

are those communities that may not be substantially dependent or engaged in the groundfish fishery, but have demonstrated some participation in the groundfish fishery since the 1994 fishing year (FY94).” (NEFMC, Am 13 FSEIS, Section 5.6.1.1.1)

Primary Community Groups

1. Portland, Maine
2. Portsmouth, New Hampshire
3. Gloucester, Massachusetts
4. Boston, Massachusetts
5. Chatham/Harwichport, Massachusetts
6. New Bedford/Fairhaven, Massachusetts
7. Point Judith, Rhode Island

Secondary Community Groups

9. Upper Mid-Coast 1, Maine
10. Lower Mid-Coast 1, Maine
11. NH Seacoast
12. South Shore, Massachusetts
13. Provincetown, Massachusetts
14. Eastern Rhode Island

2.3.2.2.1 PORT ANALYSIS SUMMARY

This information provided in this section is summarized from Amendment 13. Both dependence on fisheries in general and dependence on the multispecies fishery are important to consider for the communities that are involved in groundfish harvesting that are most likely to be impacted by the proposed management measures. The MARFIN Report focuses on overall community dependence on fisheries; the additional information presented in [Amendment 13] focuses on dependence on the multispecies fishery in particular. Both measures of dependence are summarized below. In the MARFIN Report, fishing dependence was assessed based on three indices: 1) the percentage of labor force involved in fishing, 2) the percentage of related occupations within the Bureau of Labor Statistics category of fisheries/forestry/farming, and 3) a summary measure of a series of dependence ratios that compare the number of fishermen per hundred community residents to various alternative occupational roles that fishermen could enter with their particular skill profiles. The last of the indices described above, the occupational alternative index, is the most useful tool for comparison across different communities in the region (MARFIN 2001). The MARFIN Report divides the New England region into eleven sub-regions, which are also consistent with the sub-regions analyzed for this amendment using the IMPLAN model, and then ranks these subregions from highest to lowest, based on fishing dependence. Table 6 below is from the MARFIN report and provides the fishing dependence indices for each sub-region. The MARFIN report explains that the three sub-regions with the highest dependence (Downeast Maine, Upper Midcoast Maine, Cape and Islands) share some characteristics that make these communities significantly more dependent on fishing resources than other regions of New England. These three regions are all relatively isolated from other parts of New England and have small islands and harbors, which give fishermen easy access to nearby fish and shellfish grounds. MARFIN suggests that the occupational alternative index is significantly lower for the Cape and Islands as compared to the two sub-regions in Maine because the Cape has experienced intense pressures from tourism and gentrification. However, there is variation among ports within these sub-regions. For example, Chatham is one town on Cape Cod that has remained an active fishing port over the years and has supported a successful fishing industry despite low biomass levels, increased regulations, and pressures from the recreational fishing and tourism industries. (NEFMC, Am 13 FSEIS, Section 5.6.2)

MARFIN SUB-REGION	% Related Occupations	% of Total Employed	Alternative Occupation Ratio Summary
Downeast Maine	45	3.6	255.54
Upper Midcoast Maine	36	2.0	171.05
Cape and Islands	27	0.79	104.43
Lower Midcoast Maine	23	0.46	51.32
New Bedford/South Shore	27	0.40	38.95
Southern Maine	23	0.39	36.94
Rhode Island	24	0.31	30.86
Gloucester/North Shore	20	0.21	24.91
New Hampshire Coast	8	0.09	9.46
Boston Area	7	0.05	6.39
Connecticut Coast	2	0.01	2.61

Table 6- Comparative Fishing Dependence Indices for the Eleven Sub-regions of New England (MARFIN 2001 in NEFMC, Am 13 FSEIS, Section 5.6.2)

For the purposes of this assessment, groundfish revenues expressed as the percentage of total fisheries revenues from federally-permitted vessels homeported in a particular community group represents the community group's current dependence on the groundfish fishery. Information about dependence for all community groups can be found in the Affected Human Environment section of the NEFMC Amendment 13 SEIS. Table 7 ranks average dependence on multispecies from FY99 and FY00 for the communities of interest. (NEFMC, Am 13 FSEIS, Section 5.6.2)

RANK	COMMUNITY GROUP	AVERAGE GROUNDFISH DEPENDENCE FY99-FY00
1	Chatham/Harwichport, MA	71.1%
2	Portland, ME	64.3%
3	Gloucester, MA	61.7%
4	Boston, MA	55.7%
5	Portsmouth, NH	54.7%
6	South Shore, MA	47.7%
7	Provincetown, MA	45.4%
8	NH Seacoast	44%
9	Lower Mid-Coast 1, ME	34%
10	Upper Mid-Coast 1, ME	23.1%
11	New Bedford/Fairhaven, MA	22.3%
12	Point Judith, RI	18.3%
13	Eastern Long Island, NY	16.9%
14	Eastern RI	11.5%
15	Northern Coastal NJ	3%

Table 7 – Ranking of Dependence on Groundfish for Communities of Interest (NEFMC, Am 13 FSEIS, Section 5.6.2)

2.3.2.3 OVERVIEW OF NEW ENGLAND HOOK FISHERY

Fishing with hooks for groundfish, especially cod, probably began with the earliest human habitation of New England and the Northeast. Earlier settlers of this area fished from the shore and from small boats with hooks made from bone. Later, Europeans were attracted to the northern areas of the New World not by tales of cities of gold, but by tales of abundant cod, which could be salted during long voyages and would fetch high prices in Europe. The Grand Banks rather than Georges Bank were the early choice of these fishermen from England, France, Portugal and Spain, because these grounds were nearer to Europe, and had safer weather and bottom than Georges Bank, 800 miles to the southwest.

During the first 400 years of Europeans and Americans fishing on the Grand Banks, fishermen jigged for cod, with and without bait, from the rails of relatively large vessels. During the 1880s, use of trawl lines from small dories sent out from the mother ship revolutionized the Grand Banks fisheries. The weather and treacherous shoals and reefs precluded the use of dories on Georges Bank, and the groundfish

industry split in two. Large schooners used dories during long trips on the Grand Banks to salt cod. Smaller vessels jigged or laid baited trawl lines on one or two day trips to Georges Bank and the Gulf of Maine to bring cod and those species that salt wouldn't preserve, such as haddock and halibut, to the fresh fish markets in Boston and other urban centers.

The Georges Bank groundfishery changed dramatically in 1905, when the *Spray*, the first otter trawler built in America, was launched from the Fore River Shipyards in Quincy. Slowly at first, and then rapidly following improvements in engine power and gear, otter trawling, large vessels pulling nets, came to dominate the Northeast fishery for cod, haddock, and other groundfish.

Smaller boats, hooking fish, continued to ply the inshore waters from ports close to the fishing grounds, like Chatham and other Cape Cod ports, Montauk in Long Island, and ports in Maine. Hooked Chatham fish, known for its freshness, brought a higher price than other cod at the Fulton Market in New York.” (Hall-Arber et al, 1998)

This historic and environmentally-friendly fishery has managed to maintain a continuous presence in New England. The largest proportion of these boats fish out of Cape Cod, particularly out of Chatham. “Most longline and tub trawl fishing is done from 24-40 ft. diesel-powered work boats. They can use longlines, tub trawls, poles and hand lines. Longline gear has a wire line, which runs from 5 to 20 miles long, with a stringer and hook attached every 6 feet. The tub trawl gear is set in strings, about 300 fathoms long each. Hooks are attached to the line usually about 6 feet apart. The typical vessel carries 15 tubs of baited hooks for a total of 4500 hooks. Depending on the species of fish targeted, bait can consist of clams, mussels, squid, herring, mackerel, menhaden or red fish. (Hall-Arber et al, 1998)

A NMFS survey completed in 1998 shows 321 hook vessels in New England, with 125 of those based out of Chatham, MA., 66 out of Gloucester, and 36 from Portland, Maine. The Sector, which operates out of Chatham and Harwich, is comprised of approximately 50 of the 125 permitted hook vessels; the remaining 75 being mostly part-time and charter vessels.

2.3.2.4 CAPE COD AND THE ISLANDS

The very name of this region speaks volumes about its centuries-old connection to fishing. Ever since 1602 when Bartholomew Gosnold first landed in what is now Provincetown, fishing has drawn people to Cape Cod. The Pilgrims established fishing villages along the length of this sandy peninsula, and several of these endure today, though in much changed form. A look through any promotional material for the area prominently features fishing as a primary attraction for tourism and retirement activity. Seafood originating from towns such as Chatham, Wellfleet or Eastham is renowned throughout New England for its freshness and quality. A drive through any of these towns at dawn reveals a working world of fishermen, trucks and boats busily plying their trade. A wide range of ancillary businesses such as gear suppliers, fuel, bait, marine equipment, fish markets, and restaurants depend on this industry for survival. Little hard data exists to measure the financial scope of this industry, but it's clearly becoming a priority and we anticipate that such data will become available in the near future. Massachusetts Governor Mitt Romney has recently created the Cape Cod Regional Competitiveness Council. NEMFC Council Representative John Pappalardo is on their Fisheries/ Agriculture Sub-Committee, and is recommending a priority to begin compiling this kind of data so there will be a better picture of the financial and social value of commercial fishing to the Cape and Islands.

(On) The Cape and Islands fishing is a natural occupation for those who live in such proximity to fertile fishing grounds. Furthermore, distances to major population centers with diverse alternative employment are significant. Consequently, only the tourist industry rivals fishing in importance. Because tourism is limited to the mild or warm seasons, fishing is often regarded as an appropriate year-round enterprise....

Several of the Cape Cod & Islands ports are listed among the top ports. For example, Chatham has a ranking of four, Vineyard Haven is ranked as nine, and Sandwich is 14 out of the 36 ranked. On the gentrification scale, Vineyard Haven is ranked 5th and Provincetown and Chatham are ranked 13th and 14th respectively. Despite gentrification, these ports are actively engaged in the fishing industry. Provincetown-Chatham are lumped together by *Fisheries of the United States, 1999*. In comparison to other major U.S. ports 1998-99, Provincetown-Chatham numbered among the top 50 ports with landings of 17.8 million pounds in 1998 and 20 million pounds in 1999. The value of these landings was \$10.2 million in 1998 and \$12.9 million in 1999. While the price per pound was approximately the same as found in Pt. Judith, a port to which Chatham is often compared, the quantities landed were much smaller. Chatham is the most active port of the Cape Cod & Islands sub-region. Though small, the town has an important longline/hook fleet in addition to gillnetters and lobster fishermen, a thriving shellfish industry and a well-developed support industry. Innovation and flexibility are hallmarks of Chatham fishermen. The development of niche fisheries (e.g., dogfish and now, selling to the live fish market) is something that respondents reported with pride. Chatham also has a large retired population (almost a third of the whole). As noted elsewhere, increased cost of property and lack of year round rental property is a major concern. (Hall-Arber et al, 1998)

2.3.2.5 CHATHAM/HARWICHPORT, MASSACHUSETTS

Chatham, MA is a small coastal town on Cape Cod that is primarily known as a tourist destination. In addition to great beaches and quaint shops, another major attraction for tourists in Chatham is the opportunity to view fishermen unload their catch on the Town Pier. Chatham is a geologically diverse area that supports a vast number of different fisheries. According to the 1990 Census, the year-round population was 6,600 in 1989, but it is estimated that this number is increasing significantly in recent years. Close to half of the homes in Chatham are vacant in the winter months, and roughly one-third of the population is over 65. The population of Chatham in 1989 was 98.6% white, and the median household income was \$31,315. The largest category of employed residents in 1995 was the “services” category, and fishing made up 12% of this category, representing a significant portion of the overall employment in Chatham.

According to Chatham harbormaster documents, there are 279 commercial vessels at the Chatham Fish Pier and Stage Harbor mooring areas. It is estimated that about two-thirds of these vessels are small skiffs used for shellfishing. MARFIN found that there are currently 64 vessels with docking permits for the Town Pier; 22 gillnets, 17 longliners, 5 combination, 8 lobster vessels, several handline vessels, several draggers, and four party/charter boats. The Town Pier facilities are maintained by the Town and are dedicated solely to commercial fishing interests. In addition to the Town Pier, the majority of finfish activity actually takes place on the two private docks adjacent to the Town’s facility. MARFIN found that the fleet in Chatham primarily targets Georges Bank stocks of groundfish and dogfish. The major species landed are codfish, dogfish, monkfish, haddock, bluefin tuna, and lobster. Chatham also has a substantial shellfish industry. There are numerous support services for the fishing industry in Chatham such as fish buyers, cutters, gear workers, and shellfish shuckers. Some fishermen in this area only fish part of the year, and others switch their gear to fish for longer periods of time. MARFIN found that the majority of vessels in Chatham are owner-operated. The recreational sector is growing in Chatham. MARFIN determined that the favorite species for recreational fishermen in Chatham were striped bass, followed by bluefish, scup and cod. MARFIN found many fishing related organizations in Chatham and some of them are very active in supporting Chatham fishermen and representing their voice in fisheries management. All fishermen interviewed by MARFIN believe there has been a change in effort over the past ten years, except for shellfish, which has remained stable over the years. Some Chatham fishermen voiced that they want to diversify, but they cannot get the permits to do it. (NEFMC, Am 13 FSEIS, Section 9.4.5.8.3.1)

In FY99 and FY00, Chatham and Harwichport averaged 5,980,850 pounds of groundfish landings and \$7,254,100 in groundfish revenues, establishing it as an important port of landing for groundfish vessels and a primary port for the multispecies fishery. Chatham and Harwichport also serve as homeports for a significant number of multispecies vessels. In FY99 and FY00, an average of 95 multispecies vessels homeported in Chatham/Harwichport generated \$6,844,500 in revenues from multispecies. Chatham’s overall community dependence on multispecies as a percentage of total fisheries revenues from federally-permitted vessels averaged about 71% from FY99 – FY00. It is likely that at least some of the active groundfish vessels in Chatham and Harwichport are even more than 71% dependent on the multispecies fishery. At the social impact informational meeting in Chatham, a few residents of Chatham and Harwichport submitted comments reporting that they have experienced the most significant social impacts from the May closure on Georges Bank to protect cod. The majority of multispecies vessels from Chatham and Harwichport fish for Georges Bank cod and not Gulf of Maine cod. (NEFMC, Am 13 FSEIS, Section 5.6.1.3)

Amendment 13 identified eight primary groundfish ports. This section summarizes recent activity in those ports. All eight ports experienced a decline in the number of vessels with groundfish permits that landed regulated groundfish. The smallest decline was in Portland ME, which experienced a 5 percent decline in the number of permitted vessels landing regulated groundfish. Chatham/Harwichport experienced a 53 percent decline, the largest in any port over this period (FY 2001 to FY 2004). Gloucester and New Bedford/Fairhaven, two other large ports, respectively experienced a 22 percent and a 21 percent decline.

Most ports experienced a decline in total landings between FY 2001 and FY 2004, with New Bedford the sole exception. Boston, New Bedford/Fairhaven, and Pt. Judith saw an increase in total revenues, while all other ports experienced a decline. Groundfish landings declined in all ports, with Boston experiencing the least decline (8 percent) and Eastern Long Island the largest (71 percent). Groundfish landings declined 22 percent in Portland, 19 percent in Gloucester, and 23 percent in New Bedford/Fairhaven. Landings declined 59 percent in Chatham/Harwichport (Draft FW 42 6.5.2.2.6 NEFMC).

3.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

This Environmental Assessment presents two options including the proposed action and analyzes the impacts of the alternatives which are described below.

	Alternative 1 (No Action)	Alternative 2 (Preferred)
GB Cod Hook Sector Formed?	Yes	Yes
Operations Plan Implemented?	No	Yes
Number of Sector Participants?	0	50
Allocation of GB Cod?	0	Yes 10.03%

Table 8- Summary of the management and allocation scenarios under the two alternatives

3.1 ALTERNATIVE 1 (NO ACTION)

The No Action Alternative is no submission or approval of the Sector Operations Plan NOR any modified Operations Plan. While the Sector would be available under Alternative 1, all vessels would opt to remain in the common pool and fish under the regulations implemented in Amendment 13 and subsequent framework adjustments to the NE Multispecies FMP. Therefore, no allocation of GB cod would be made to the Sector.

Alternative 1 assumes that no vessels elect to enter the Sector. Under this alternative, all hook and line vessels decide to remain in the common pool and be subject to current regulations. While there is a Sector (but no vessels electing to enter it), the Sector would not have an allocation of GB cod.

3.2 ALTERNATIVE 2 (PREFERRED ALTERNATIVE)

The Preferred Alternative is approval of the Operations Plan and allocation of GB cod. Sector vessels would be subject to the regulations implemented under the Operations Plan.

As part of Amendment 13 to the Groundfish Plan, the GB Cod Hook Sector Allocation was passed unanimously by the NEFMC (14-0), as an opportunity for a self-selecting group of fishermen with valid multispecies permits to voluntarily come together and form a cooperative for the purposes of attaining an allocation.

The Sector allocation was approved by the NEFMC and implemented by NMFS as a component to Amendment 13. Now, for the third year, the Sector members present the Sector Operations Plan for review and approval by NMFS. The proposed Operations Plan has been deliberated by the prospective Sector members and represents the culmination of bi-weekly stakeholder meetings for over three months. The process by which the Operations Plan was developed is but one example of the social benefits of the Sector. The Operations Plan is the result of authorizing formation of a Sector that empowers stakeholders to more closely “plug in” to the management infrastructure and hold a more active role in development of appropriate regulations.

The 50 vessels in the Sector are typical of the traditional hook and line fleet. Vessels range in size from 23 to 42 feet and 200 to 600 horsepower. Most vessels sail from Chatham or Harwichport and return to port after 12-18 hours at sea.

The larger vessels (30-42 ft) in the fleet utilize traditional hand-baited longline gear know as tub-trawl to target cod and haddock. The Sector has 16 vessels that are exclusive to this category. Longliners set their gear before slack tide and haul the gear back shortly after setting is complete. As such, “soak times” are short (2-4 hours) in the GB cod fishery. An average vessel will set between 3600 and 6000 hooks per trip. Vessels that set the higher number of hooks generally fish two tides and are generally larger. Most longline vessels have a captain and one crewman.

Jigging is the other method of harvest for the Sector. Twenty-five vessels are exclusively jigging. By rod and reel or handline, members traditionally target cod and occasionally pollock. These vessels are typically smaller with the captain fishing alone or with one crewman. The remaining vessels longline and jig on the same trip. Oftentimes, these vessels switch seasonally to optimize their catch and minimize their expenses.

Vessels participating in the Sector will be legally bound to uphold and abide by the Operations Plan (Appendix I) and the following Harvesting Rules:

Fishing Year 2006-07 (May 2006 – April 2007) GB Cod Hook Sector Operations Plan

HARVESTING RULES For Fishing Year 2006-2007

The Members and the Participating Vessels of the Sector agree to be legally bound to follow the Harvesting Rules for the fishing year 2006 as described herein, notwithstanding those rules and regulations applicable to common pool Multispecies vessels.

1. Aggregate Sector allocation: GB cod TAC (insert poundage): The Members agree that they will not collectively harvest more GB cod than the Sector TAC and that once the annual TAC is reached no Member will fish commercially with any fishing gear capable of catching GB cod or other species managed under the Plan.
2. Monthly quota targets: Commencing May 2006, 8.33% of the Sector’s cod quota will be allocated to each month of the fishing year. Quota that is not landed during a month will be rolled over into the next month. Once the aggregate monthly quota is reached, no Participating Vessel will be authorized to use fishing gear capable of catching GB cod or other species managed under the Plan.

	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April
%	8.33	16.67	25	33.33	41.67	50	58.33	66.67	75	83.33	91.67	100

3. Days-At-Sea (“DAS”): Each participating Permit and Participating Vessel will be allocated DAS by the Regional Administrator through Amendment 13, as set forth on Exhibit B to the Agreement. This DAS allocation will be considered the Sector’s DAS allocation distributed to individual Members. Members will be required to use an “A”, “B Regular” or “B Reserve” DAS when conducting fishing operations.
4. Sector Call-In: Each Participating Vessel must call in to the Manager or his designated representative prior to departing from port when using fishing gear capable of catching GB cod.
5. DAS Transfer/Lease: A Participating Vessel and/or Permit may not transfer or lease DAS to any non-Sector vessel and/or permit during the fishing year in which the Participating Vessel and/or Permit is enrolled in the Sector.
6. Full retention: All legal size GB cod harvested during any fishing operation must be retained, landed and counted against the Sector’s Aggregate Allocation.
7. Species Trip Limits: There will be no species trip limit for GB cod during the 2006 fishing year. There will be trip limits for White hake (1000 lbs per DAS), GB winter flounder (2000lbs per trip), and all Yellowtail (100 lbs per trip). All cod harvested by Members and Participating Vessels shall be considered GB cod for the purposes of the Operations Plan and Agreement;
8. Hook Size: All hooks must be 12/0 circle hooks. For these purposes, a “circle hook” is defined as a hook with the point turned back towards the shank and the barbed end of the hook is displaced (offset) relative to the parallel plane of the eyed-end, or shank of the hook when laid on its side.
9. GB Seasonal Closure/Spawning Season Restrictions: Participating Vessels are not required to adhere to the seasonal closure on Georges Bank (May 1 through May 31). However, Participating Vessels must continue to comply with the Spawning Season Restrictions.
10. Closed Areas: Participating Vessels may fish in closed areas to the extent authorized by NMFS.
11. Gear Restrictions: Members and their Participating Vessels may not fish for GB cod or other species managed under the Plan with gear other than jigs, non-automated demersal longline, or handgear. The Board reserves the right to prohibit other fishing activities by Members if it determines that those activities undermine or compromise the Plan and the Sector or otherwise conflict with the standards and ethics described in the bylaws and guiding principles.

12. Distribution and pooling of DAS At the beginning of the fishing year each participating vessel will be allocated DAS identical to the individual baseline established for the vessel by Amendment 13 and is expected to be subsequently reduced by FW 42. At any time during the year and subject to Board approval, a Member may request the Manager to redistribute DAS among one or more participating vessels. Vessel size restrictions (10% length, 20% horsepower) do not apply to the redistribution of DAS among sector vessels. The maximum vessel characteristics are limited to the largest baseline of a Sector permit. Internal Sector redistribution will cease after March 1st of a given fishing year in order to provide for administrative action and time to fish the DAS.
13. Observer Notification Requirements in the US/CA Resource Management Area: Members are exempt from the requirement to notify the observer program at least 72 hours prior to entering the Western US/CA area, only while fishing on an A DAS. Members wishing to fish in the B regular DAS program are still required to notify NMFS 72 hours in advance. All other requirements (reporting, VMS) are maintained. Members electing to enter the Eastern US/CA area are still obligated to comply with the observer notification requirements.
14. Additional DAS Management Measures: Participating vessels are not subject to differential DAS counting requirement implemented through Emergency Secretarial Action or Framework 42.

*Prorating of DAS and landings: Members and their Participating Vessels that use a DAS (including while engaged in an approved EFP) prior to the effective date of the Agreement under Article VIII thereof shall have such DAS usage deducted from such Members' individual DAS allocation set forth on Exhibit B hereto, for purposes of the DAS restrictions described in paragraph 3 of this Exhibit C. All GB codfish landed by said Participating Vessels shall be deducted from the Sector's Aggregate Allocation of GB cod. The Manager and/or other Sector management will consult with NMFS as to NMFS' crediting of all GB cod landings against the Sector's Aggregate Allocation.

In addition to the Operations Plan, Sector members will be subject to a legally binding Membership Agreement that will delineate the interaction of members within the Sector, including governance, enforcement, and penalties for non-compliance. The Sector will operate independent of common pool vessels that still operate under a "soft" TAC and input control measures such as DAS as the main controls for managing mortality. The self-governance and monitoring of the Sector will allow members to maintain stewardship of the resource they depend upon and it will create a sense of interconnectedness between fishermen that will encourage compliance with the Sector Membership Agreement and Operations Plan. By managing the Sector at the community level, NMFS will carry less of an enforcement burden. In addition, because community based management is flexible to annual and midseason modifications, it will be more responsive to changes in the condition of the fishery than the traditional process has been.

The table presented below identifies and compares those elements of the Operations Plan that are specific to the Sector (Preferred Alternative) to those elements of current regulations that would pertain to hook vessels in the Common Pool.

	Operations Plan (Preferred Alternative)	Common Pool
#1 – Hard TAC Allocation of GB cod.	Yes	No
#2 – Monthly Quotas	Yes	No
#3 – DAS Allocations	Yes	Yes
#4 – Sector Call-In	Yes	No
#5 – External DAS Transfer/Lease:	No	Yes
#6 – Full retention of GB Cod	Yes	No

#7 – Species Trip Limits (GB Cod)	No	1,000 lbs/day
#8 – Hook Limit (size)	Size 12 circle	Size 12 circle
#9 – GB Seasonal Closure - May	No	Yes
#10 – Closed Areas	Yes	Yes
#11 – Gear Restrictions	Hook Only	No
#12 – Redistribution of DAS within sector	Yes	No
#13 – Observer Notification	W US/CA = no	Yes
#14 – Differential DAS counting	No	Yes

Table 9- Comparison of management measures for hook vessels under the Ops Plan and common pool rules

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 ALTERNATIVE 1 (NO ACTION)

Review: While the Sector would be available through Alternative 1, all vessels would opt to remain in the common pool and fish under the regulations implemented under Amendment 13 and subsequent framework adjustments. Therefore, no allocation of GB cod would be made to the Sector.

4.1.1 BIOLOGICAL IMPACTS (ALTERNATIVE 1)

The biological impacts of Alternative 1 have been analyzed extensively in the Amendment 13 FSEIS (the most recent FSEIS drafted under the NE Multispecies FMP).

Target Species

As stated above, Alternative 1 would lead to the conversion of most longline vessels to gillnet vessels. These vessels will not have a hard TAC to constrain them and with the more efficient gillnet gear offering them a wider array of species to target, these vessels are likely to reach their 1000 pound daily GB cod limit and continue fishing, discarding all further GB cod overboard.

Non-target Species/Incidental Catch

Effects on non-target species are expected to occur under Alternative 1 as a result of the shift from longlining and jigging to gillnetting. Gillnetting has interactions with a broader range of species than longlining, creating more opportunities for incidental catch. In addition, hook gear offers fishermen the opportunity to return discarded fish to the sea alive. Table 10 shows the difference in species interaction between gear types in all areas:

Year	Species	Metric Tons (Gillnet)	Metric Tons (Longline)
2002	SHARK, SPINY DOGFISH	805.4	1,042.9 *
2002	HADDOCK	447.5	35.3
2002	SKATES	2,581.0	26.7
2002	POLLOCK	1,615.1	25.9
2002	TILEFISH	1.0	23.1
2002	HAKE, WHITE	776.1	18.7
2002	CUSK	25.2	14.3
2002	FLOUNDER, WINTER	144.1	5.7
2002	FLOUNDER, YELLOWTAIL	126.7	1.5
2002	GOOSEFISH	5,410.9	8.5
2002	WOLFFISH, ATLANTIC	15.7	6.2
2002	BLUEFISH	84.6	2.2
2002	LOBSTER, AMERICAN	119.4	
2002	FLOUNDER, SUMMER	62.9	
2002	FLOUNDER, WITCH	60.5	
2002	HAKE, SILVER	49.1	
2002	REDFISH OR OCEAN PERCH	48.0	
2002	PLAICE, AMERICAN	41.6	
2002	MACKEREL, ATLANTIC	25.8	
2002	SQUID, LONGFIN	21.1	
2002	SCUPS OR PORGIES	11.6	
2002	CRAB, JONAH	7.6	
2002	SHARKS	6.8	
2002	TAUTOG	6.8	
2002	HAKE, RED	4.4	
2002	SCALLOP, SEA	3.7	
2002	WEAKFISH	2.9	
2002	SEA BASS, BLACK	2.4	
2002	HALIBUT, ATLANTIC	2.3	
2002	BUTTERFISH	1.3	
2002	TUNA, LITTLE TUNNY	1.1	

Table 10- List of non target species interactions by gear type for bottom longline and sink gillnets in the Northeast Region.

Information based on a NMFS landings database query for 2002 and filtered to show those species which were caught by bottom longline and sink gillnets in amounts greater than or equal to one (1) metric ton.

This shows that with the application of this filter (\geq 1mt) sink gillnets interact with 31 non target species and bottom longline interacts with 12 non target species. Gillnets interacted with 19 more species than longline.

(SPECIES LANDED UNDER
1 MT NOT SHOWN)

Table 10 demonstrates the expected interactions with non-target species for both longlining and gillnetting. Of particular concern is the predictable increase in catch rates of yellowtail flounder, winter flounder, white hake, and American plaice, which would occur with any net increase in gillnetting. Each of these species is currently overfished. Skates, pollock, haddock, monkfish, and lobster catch rates may also increase.

Protected Species

Because of the expected shift from longlining and jigging to gillnetting, Alternative 1 will have some slight impacts on protected species. Gillnetting has greater interactions with protected species than longlining. Indeed, the Northeast sink gillnet fishery is classified as a Level I fishery under the MMPA Proposed LOF for 2004. The bottom longline fishery on Georges Bank was not classified, but the GOM bottom longline fishery which uses similar gear was classified as a Level III fishery under the LOF. An explanation of the classifications used in the LOF follows:

The primary gear types used in the multispecies fishery are listed under Category I and III of the proposed 2001 List of Fisheries for the taking of marine mammals by commercial fishing operations under section 118 of the MMPA. Category I fisheries are those fisheries for which there is documented information indicating a “frequent” incidental mortality and injury of marine mammals in the fishery. The multispecies sink gillnet fishery and mid-Atlantic coastal gillnet fishery are listed as Category I fisheries. ESA-listed cetaceans have been taken in these fisheries. A Category II fishery is a fishery for which there is documented information indicating an “occasional” incidental mortality and injury of marine mammals. None of the primary gear types used in the multispecies fishery is proposed for listing in Category II. Finally, in Category III there is information indicating a “remote likelihood” of incidental taking of a marine mammal in the fishery or, in the absence of information indicating the frequency of incidental taking of marine mammals, other factors such as fishing techniques, gear used, methods used to deter marine mammals, target species, seasons and areas fished, and species distribution of marine mammals in the area suggest there is a “remote likelihood” of an incidental take in the fishery. The multispecies trawl fishery and the Gulf of Maine groundfish bottom longline/hook-and-line fishery are listed as Category III fisheries. There have been no recorded takes of ESA-listed marine mammals in these fisheries. (NMFS, 2001)

Table 11 shows the marine mammals known to have had interactions with sink gillnets versus those known to have interacted with bottom longlines in the GOM. Clearly, the Category I classification of the sink gillnet fishery under the LOF and the much more extensive list of species affected show that the shift of effort from longlines to gillnets likely under Alternative 1 will have some negative impacts on protected species.

Fishery Description	Estimated # of vessels/persons	Marine mammal species and stocks incidentally killed/injured
Northeast sink gillnet	341	North Atlantic right whale, WNA Humpback whale, WNA Minke whale, Canadian east coast Killer whale, WNA White-sided dolphin, WNA Bottlenose dolphin, WNA offshore Harbor porpoise, GME/BF Harbor seal, WNA Gray seal, WNA Common dolphin, WNA Fin whale, WNA Spotted dolphin, WNA False killer whale, WNA Harp seal, WNA
Gulf of Maine tub trawl groundfish bottom longline/ hook-and-line	46	Harbor seal, WNA Gray seal, Northwest North Atlantic Humpback whale, WNA

Table 11 - List of marine mammals known to have interacted with the longline and gillnet fisheries in the Northeast. Excerpted from the 2004 Proposed LOF (Department of Commerce, 2004)

Biological Conclusions

Should the Sector Operations Plan not be approved and an allocation of GB cod not be made to the Sector, it is expected that a large percentage of longline vessels may convert to gillnetting and many jig vessels will be forced to sell their permits because they will not have the protection of the cod allocation and will be out-competed by more efficient vessels. While the overall biological impacts to regulated

species are considered and accounted for as part of the TAC specification process, gillnetting has interactions with a broader range of species than longlining, creating more opportunity for negative interactions through incidental catch of non-target and protected species. Thus, instead of the full retention hard TAC hook fishery which would be in place under Alternative 2, Alternative 1 would likely create a conversion to a soft TAC gillnet fishery with the potential for larger amounts of GB regulatory discards.

While it is difficult to predict the final outcome of Framework 42, a likely result of reductions in effort could contribute to many smaller vessels relocating effort to the GOM where revenue per day absent would likely increase. A benefit of Alternative 2 is the geographical limitations placed on Sector members: the Sector will maintain a traditional fishing fleet around a traditional fishing area. Under the proposed Sector Operations plan (Alternative 2), members are prohibited from fishing in the GOM and therefore cannot redirect effort onto Gulf of Maine stocks.

4.1.2 PHYSICAL ENVIRONMENT AND HABITAT IMPACTS (ALTERNATIVE 1)

The EFH Final Rule identifies adverse impacts as “any impact, which reduces quality and/or quantity of EFH. Adverse effects from fishing may include physical, chemical, or biological alterations of the substrate, and loss of, or injury to, benthic organisms, prey species and their habitat, and other components of the ecosystem” (NEFMC, 1998)

The *Workshop on the Effects of Fishing Gear on Marine Habitats off the Northeastern United States*, October 23-25, 2001 found that longlines cause some low degree impacts in mud, sand and gravel habitats (Department of Commerce, 2002). As stated in the EFH final rule, the intent of EFH “is to regulate fishing gears that reduce an essential habitat’s capacity to support marine resources, not practices that produce inconsequential changes in the habitat” (Department of Commerce, 2002).

Habitat Conclusions

Alternative 1 is expected to have some minimal habitat impacts. Because there will be no fishermen participating in the Sector, no fishermen will be fishing under a hard TAC resulting in the potential for more fishing effort and, as a result, more interaction with habitat.

4.1.3 SOCIAL AND ECONOMIC IMPACTS (ALTERNATIVE 1)

Alternative 1 will have negative social impacts on hook fisherman and on the Chatham/Harwich community. The imposition of a daily trip limit (1,000 lbs.), reduction in DAS (up to 40%), gear restrictions, and continued closed areas will likely combine to eliminate the centuries old hook fleet causing negative social impacts. Alternative 1 will make it unlikely that a directed GB cod fishery using longline gear will be viable (see Table 14 in Section 5.3.1). Thus, communities heavily dependent on GB cod such as Chatham and Harwichport will be disproportionately impacted. The GB Hook Sector was approved in Amendment 13 to provide an opportunity for Hook and line fishermen to continue to pursue the traditional fishery for cod and haddock. Pending changes to the Multispecies FMP (Framework 42) may potentially undermine the Sector concept as well as eliminate the likelihood that hook and line fishing can remain profitable.

As noted at the Social Impact Informational Meetings, “because of increased regulations in many fisheries, small vessels have lost much of their flexibility to move from one fishery to another. In Chatham, meeting participants felt that regulations have “boxed them in” to particular fisheries, making it difficult or impossible for them to maximize their opportunities and/or adjust to changing conditions. When combined with the inherent limitations of small vessels, the regulations have reduced fishing

opportunities to the point that many fishermen cannot guarantee a year-round income from fishing for themselves or for their crew.” (NEFMC, Am 13 FSEIS, Appendix I)

Individuals who wish to continue commercial fishing will likely switch to gillnetting or relocate their homeport. This will cause a disruption within the principle communities (Chatham/Harwichport) for shore based businesses and could eventually lead to the loss of piers, wharfs and docks which are in high demand for residential purposes. This outcome will further diminish the possibility for these communities to reenter the fishery once stocks have rebuilt. The well-documented social ills that follow the collapse of a traditional industry are likely to be a result of implementation of Alternative 1.

In 2004, vessels targeting multispecies in Chatham/Harwichport experienced 59% decrease in landings. If the Operations Plan is not approved and an allocation of GB cod is not made to the Sector, hook and line vessels that would otherwise be part of the Sector would likely fish under common pool regulations or switch gear types to ensure the viability of their fishing businesses and attempt to offset their decrease in landings.

Amendment 13 to the NE Multispecies FMP has had severe, disproportional negative economic impacts on the GB hook fleet. Lowering of the GB trip limit from 2000 to 1000 pounds, a 40% cut in DAS, no access to Closed Area I, a 3600 hook limit and the 22 inch minimum size for cod will make hook fishing for Georges Bank cod economically untenable. Subsequent actions have mitigated some of these impacts, such as the haddock SAP authorized through FW 40A.

Trip Limit

The reduction in the daily limit for cod from unlimited (Alternative 2) to 1000 pounds per day would negatively impact the potential revenue of hook fishermen when one considers that 70% of hook vessel revenue on Georges Bank results from GB cod (NEFSC, Demerest, unpublished data, 2004). The reduction in the GB cod trip limit would be devastating to the directed hook and line fleet on GB.

DAS Reduction / Differential Counting

The DAS reduction in Amendment 13 had a negative economic impact on the GB hook fleet as the GB hook fleet is so heavily dependent on GB cod. “In fact, both gillnet and hook gear groups appear to be split between vessels that may experience significant revenue losses and vessels that may experience revenue gains. This disparity is likely due to differences in dependence on Georges Bank cod and Gulf of Maine cod. Because cod tends to represent such a high proportion of total fishing income for these two gear groups, revenues are very sensitive to changes in cod trip limits. Thus, while the Gulf of Maine cod trip limit would be double that of FY2001 the Georges Bank cod trip limit is more restrictive. This means that even with a 45% DAS reduction, hook and gillnet vessels with a high dependence on Gulf of Maine cod can increase total fishing income while vessels with high dependence on Georges Bank cod experience revenue losses.” (NEFMC, Am 13 FSEIS, Section 5.4.4.1) Furthermore, the additional 8% DAS reduction that is expected as part of Framework 42, would accelerate the disproportionately negative economic impact on the GB hook fleet.

While near 50% reduction in DAS that have occurred over the last five years have impacts on all vessels in the fishery, the hook fishery is least likely to adapt under this alternative considering the range of species available to the gear. While the gillnet fleet can switch its efforts to monkfish, skates, lobsters and other species within the multispecies complex, GB hook fishermen cannot. DAS allocated to hook fishermen will likely be leased, or used conservatively to capitalize on the current market price. Typically, the GB codfish is highest in value during the winter months. If this assumption is accurate,

hook fishermen (typically in vessels >45 ft) will fish in more dangerous weather in order to compete in the market. This is a serious safety concern.

Changes to the counting of DAS will result in similar impacts to the current GB Hook Sector membership. Framework 42 is set to be implemented in August of 2006 and brings with it a differential DAS counting scheme of 2:1 to the inshore fishing grounds that the GB hook fleet has traditionally operated in. Without the protection and flexibility of the Sector Operations Plan, (Alternative 2) Sector members will likely relocate effort, switch gear types or take additional risks to fish farther from port to escape the differential DAS counting areas.

Gear Limit

The 3600 hook limit that applies to common pool vessels was implemented in order to serve as an additional fishing effort control in addition to DAS, analogous to mesh size restrictions for trawl gear or gillnet limits. This hook limit prevents hook fishermen from maximizing opportunities when codfish and haddock are available for harvest in abundance, and benefits similar to a hook limit would be achieved in the Sector through effort controls such as a hard TAC. The opportunity to fish multiple tides is prevented by regulations that prohibit setting more than 3600 hooks on a given day. By contrast, gillnets fish many tides (even when the vessel owner is home and not using a DAS) and otter trawl vessels have no limit on the number or duration of tows in a 24 hour period. This gear restriction limits the ability of hook boats to recognize sufficient revenue to justify the expense and danger of fishing. Thus, the 3600 hook limit is another factor in Alternative 1 that may drive hook vessels to gillnetting. The 3600 hook limit was introduced in the Interim Rule and fishermen have employed it since May 2002. In that time, longline and jig vessels have lost more than 40% of their income, a far greater percentage than any other gear type (NEFMC, Am 13 DSEIS, Section 9.4). The 3600 hook limit does not allow hook fishermen the flexibility to maximize their catch when cod appear in their geographical range and unnecessarily restricts the opportunity of Sector members to maximize their efficiency and revenue. With these limited revenue opportunities, longline vessel owners would be forced to look for options other than hook fishing, including leasing DAS to gillnetters and otter trawlers, selling their permits, or converting to gillnetting. Alternative 1, because it lacks approval of the Operations Plan and allocation of GB cod, would result in all vessel owners remaining outside the Sector so that they can exercise these options. The potential biological impacts of this shift are identified, characterized and analyzed in Section 5.1.1 of this EA.

Social and Economic Conclusions

The cod and haddock dependent hook fishery of Georges Bank would not survive the multiple regulation changes that would result from Alternative 1. Left with fewer fishing days, a high dependence on GB cod, and a limit on the number of hooks which can be used in a given day, the hook fishery would likely experience a negative economic impact. Framework 42 is also contemplating the creation of several differential DAS counting areas. These areas are designed to protect yellowtail flounder, a species which is neither targeted nor landed by Sector participants.

4.2 ALTERNATIVE 2 (PREFERRED ALTERNATIVE)

The Preferred Alternative is implementation and approval of the Operations Plan. Sector vessels members would be subject to the regulations implemented under the Operations Plan.

4.2.1 BIOLOGICAL IMPACTS (ALTERNATIVE 2: PREFERRED ALTERNATIVE)

Alternative 2 will have overall positive biological impacts because the Sector Operations Plan will ensure that a traditional portion of GB cod is taken by hook gear rather than more efficient gears that are known

to result in greater bycatch and habitat impacts. Hook gear has been used to target cod and haddock on Georges Bank for centuries, and the biological impacts of the Sector will be predictable and minimal. In addition, the imposition of a hard TAC on the Sector will ensure that Sector members are not contributing to overfishing of GB cod. Implementation of the Operations Plan will allow a maximum number of hook vessels to remain active in the hook fishery rather than converting to gillnetting or dragging, leasing days to gillnetters or otter trawlers, or selling their permits to gillnetters or otter trawlers. As a result, the bycatch and habitat impacts common to the gillnet and otter trawl fleet will not expand. In addition, approval of the preferred alternative will prevent the transfer of effort from Georges Bank to the Gulf of Maine. The following section analyzes the impacts that implementation of the Operations Plan will have on GB cod, other species (non-target species/incidental catch), and protected species.

While this alternative contains requests for new exemptions for the Sector (relative to the 2005 approved Operations Plan and Harvesting Rules), it should be noted that the exemptions are consistent with the stated goals of Sector Allocation.

Target Species

By staying within the hard TAC of GB cod allocated to the Sector, approval of the Sector Operations Plan would not compromise groundfish mortality targets of Amendment 13 and FW 42. The Sector prevents approximately 50 dedicated GB cod and haddock vessels from contributing to overfishing. The Operations Plan calls for full retention of legal sized GB cod. Thus, there will be no regulatory discards of legal sized GB cod associated with the Sector. The full retention clause as well as other stipulations of the Operations Plan such as dealer reporting, would ensure that all cod caught by Sector participants would be landed and counted against the Sector quota in real-time, assuring that the Sector and members of the Sector would not contribute to overfishing of GB cod. The GB Hook Sector will have 37 boats in FY 2006 comprising approximately 10.03% of the GB cod TAC. These 37 boats caught 11,364,693 lbs of GB cod during the qualifying period; 10.03% of the 113,278,842 total lbs of GB cod landed during the qualifying period. 50 vessels represents the maximum number of vessels that will participate in the Section in FY 2006; based upon the impacts of several upcoming management actions in the multispecies fishery (e.g., Framework 42), some vessels may decide to fish under the common pool.

According to the Amendment 13 FEIS, the Sector allocation is consistent with the biological objectives of the Amendment, given adherence to target fishing mortality rates (NEFMC, AM 13 FSEIS, Sec 5.2.4.18). Furthermore, the Amendment 13 FSEIS concluded that the GB hook and gillnet sector alternative should be consistent with rebuilding goals and have only minor biological impacts over time. The Sector allocation assigns an appropriate share, based upon member's landings of GB cod using any gear during the eligibility period, of the resource to the participants. However, with Board and NMFS approval in 2006, Sector members will be able to redistribute DAS within the Sector and not be bound by the vessel size restrictions in the common pool. This allows the Sector members to maximize their profitability while still maintaining non-overfishing fishing effort on the GB cod stock. While it is possible that in a specific year the Sector may catch more than its share, this would result in reductions in following years (NEFMC, AM 13 FSEIS, Sec 5.2.4.19). The Sector Operations Plan has provisions for a 5% set aside of Sector TAC to guarantee that the Sector will not exceed the TAC in any given FY.

The request for exemption from the differential DAS counting requirements is necessary to allow Sector vessels the opportunity to target and catch the allocation of GB cod as well as to remain accountable for the collective impacts of the Sector. As stated previously, the target species of the Sector are GB cod and haddock. The Sector believes charging a differential DAS rate amounts to a reduction in effort to harvest their allocation of codfish and to pursue haddock. This is an unnecessary impediment which is proposed through the Secretarial Action and FW 42 as a remedy to halt/slow down the mortality on stocks which Sector members catch incidentally and infrequently (such as yellowtail flounder, see Table 12). This

alternative proposes to replace the differential DAS counting with restrictive trip limits. Further explanation is contained below in the Non-Target species section.

It is important to note that Federal regulations state;

A primary motivation for the formation of a sector is the assurance that members of the sector will not face reductions of catch or effort as a result of the actions of vessels outside of the sector (i.e., if the other vessels exceed their target TACs). The final rule is revised, based on public comment, to provide the Regional Administrator the authority to exempt members of a sector from regulations that apply to the fishery at large, if they are in conflict with a sector's approved operations plan. (22914 Federal Register / Vol. 69, No. 81 / Tuesday, April 27, 2004 / Rules and Regulations)

Several specific elements of the Operations Plan have direct impacts on target species. The elements and their impacts on target species are listed below.

- (1) The hard TAC (Operations Plan #1) sets an absolute maximum poundage of cod that the Sector can catch each year and prevents the Sector from overfishing. Should the TAC be exceeded, fishing activity will cease;
- (2) Monthly quota targets (Operations Plan #2) spread out the catch evenly throughout the year and ensure that the Sector does not harvest the Sector allocation in an overly intensive fashion to the detriment of the GB cod stock or to spawning aggregations;
- (3) Days-at-Sea allocations (Operations Plan #3) set an absolute maximum on the amount of effort the hook fleet can expend in attempting to catch the Sector allocation each year. The DAS and the hard TAC work as complementary input and output controls ensuring no overfishing of GB cod by the hook fleet;
- (4) The full retention (Operations Plan #6) clause ensures that all legal sized cod caught by Sector members will be landed and counted against the Sector quota. This will ensure that the Sector does not overfish GB cod through regulatory discards of legal sized GB cod;
- (5) Hook size limits (Operations Plan #8) mandate the size 12 circle hook which will reduce the amount of undersized cod caught, thus reducing regulatory discards of undersized cod. The circle hook requirement allows undersized fish to have better survivability and easier escapement. The increased daily hook limits will have minimal impacts as effort, landings, and discards are strictly controlled through additional measures including DAS allocation and a hard TAC;
- (6) The GB seasonal closure/spawning season restriction (Operations Plan #9) stipulation has minimal impacts on GB cod. Because of the monthly quota targets, only 8.33% of the Sector allocation, or 112,977 pounds (.836% of overall GB cod target TAC) of cod can be caught by the Sector during the month of May. The impact may be offset as Sector members will no longer fish in the Gulf of Maine during the month of May. In addition, Sector members will still be required to take their 20 day spawning block out of the fishery during the months of March, April, or May to protect spawning fish;
- (7) Gear restrictions (Operations Plan #11) ensure that Sector members will only pursue groundfish with hook gear. This will have a positive impact for GB cod as a maximum number of vessels will remain in the hook fishery and the likely percentage of discard mortality will remain low;

- (8) Redistribution of DAS (Operations plan #12) is consistent with the intent and stated benefits of Sector Allocation at the time of Final approval of Amendment 13. This element enhances flexibility of membership with respect to their DAS allocations and allows Sector to pursue scales of efficiency to offset resource depletion and increasing overhead. This will maximize the opportunity of Sector members to harvest their TAC to their fullest potential while not contributing to overfishing of the GB cod stock. Exemption from the 10/20 rule on leasing of DAS within the Sector is also consistent with the stated benefits of the GB Hook Sector. This measure would result in biological accountability of the Sector with social and economic benefits;
- (9) Exemption from the observer requirement to enter Western US/ CA (Operations plan #13). The traditional fishery will operate unencumbered by a requirement designed to monitor the catch of GB Yellowtail flounder. Table 12 (below) indicates negligible impact to the GB yellowtail resource;
- (10) Exemption from additional measures designed to protect SOC (yellowtail flounder, winter flounder, white hake) such as differential counting of DAS (Operations Plan #14) will allow the Sector to pursue its allocation of GB cod in traditional fishing areas.

In order to end overfishing on Georges Bank cod, Sector members needed to ensure that landings were held under 371 metric tons for the 2004/05 fishing year. The Table 12 shows that the Sector landed approximately 130 metric tons (286,190.0 pounds) of Georges Bank cod during the 2004/05 fishing year, thereby indicating that Sector members abided by their TAC and were not contributing to overfishing.

Non-target Species/Incidental Catch

Table 12 summarizes total landings of other species that Sector members caught in FY 2004/05. Sector members will be employing gear that has been used for decades to catch GB cod and haddock. The incidental catch of non-target species is likely to be similar to the incidental catch of non-target species during the qualifying period (1996-2001) because the Sector cod TAC will be identical to the take of Sector members during the qualifying period. A net increase in the incidental catch of non-target species is not expected.

Species	Landings (lbs)	Species	Landings (lbs)
Gray Sole	2.0	Red Hake	4,241.0
Fluke	3.0	Ocean Catfish	6,656.0
Yellowtails	7.0	Redfish	11,479.0
Monk Livers	10.0	Skate Wings	12,351.0
Whiting	17.0	White Hake	23,323.0
Plaice	114.0	Cusk	39,978.0
Ocean Pout	203.0	Dogfish	41,821.0
Halibut	314.0	Pollock	44,586.0
Blackback	1,020.0	Cod*	286,190.0
Monk tails	1,171.0	Haddock*	1,524,706.0
Monk whole	3,016.0		

Table 12- 2004/05 Georges Bank Hook Sector Landings (Pounds)
 * target species

Several specific stipulations of the Operations Plan that have impacts on **non-target species** are listed below:

- (1) The hard TAC for GB cod (Operations Plan #1) stops Sector members from catching non-target species once the hard TAC is caught each year;
- (2) Monthly quota targets for GB cod (Operations Plan #2) stop the Sector from catching non-target species once the monthly quota is caught each month;
- (3) Days-at-Sea allocations(Operations Plan #3) set an absolute maximum on the amount of effort the hook fleet can expend in attempting to catch the Sector allocation of GB cod each year. DAS usage ensures that the effort of the Sector will be similar to the effort of the hook fleet during the qualifying period and puts a cap on the effort that Sector members can put into the fishery. This sets a corollary maximum on expected bycatch; this range of impacts was previously approved in Amendment 13 and two years of Sector Operation Plans;
- (4) Hook size (Operations Plan #8) requires a larger hook size, ensuring that some amount of fish with smaller mouths, such as small flounders, are not caught by Sector members. The circle hook requirement increases survivability for non-target species caught incidentally;
- (5) Gear restrictions (Operations Plan #11) ensure that Sector members will only pursue groundfish with hook gear. This will have a positive impact for GB cod by avoiding the conversion of longliners to gillnetters. In addition, Sector members will not fish in the Gulf of Maine and will therefore have no negative impacts on species in the GOM;
- (6) Exemption from additional measures designed to protect SOC (yellowtail flounder, winter flounder, and white hake) such as differential counting of DAS (Operations Plan #14) will not increase impacts on SOC. Impacts to SOC are minimized by the gear requirements (hook only) in the Sector as well as through the respective trip limits on SOC. The trip limits on SOC are consistent with the proposed limits contained within Framework 42 (white hake) and in some cases they are more restrictive (yellowtail 100lb per trip, GB Winter Flounder 2000lb per trip);
- (7) It is worth noting that the assumed impacts on SOC (non-target species) are **less than** the impacts of limited access scallop vessels on groundfish SOC. Based on the available (observed) bycatch information in this fishery, the impact of hook gear is expected to be similar (white hake) or less (yellowtail flounder, GB winter flounder) than the exempted scallop fishery. (*Final framework 18 to the Scallop FMP (NEFMC) Appendix V, tables 2,3,7*)

Protected Species

Table 3 in Section 3.2.6 of this document lists protected species in New England. Hook and line fishing has minimal interaction with protected species, including humpback whales, harbor seals, grey seals, barndoor skates, and thorny skates (see section 3.2.6 of this EA). Sector members will be employing gear in the same areas they have been fishing for centuries, so the effect on protected species in that area are likely to be similar to what they've been in the past: minimal.

Based on historical data, the Sector is not expected to affect marine mammals since there have been no documented interactions between any endangered marine mammals and the benthic longline fishery on Georges Bank. (There has been one documented longline interaction with a humpback whale in the Gulf of Maine but interaction with longline gear does not impact the health or well-being of large cetaceans).

Furthermore, the Atlantic Large Whale Take Reduction Plan does not affect the use of hook gear because this gear type is not known to result in serious injuries or mortality to large whales (e.g., right whales, humpback whales or fin whales). While ESA listed marine mammals are present in the management area,

the alternatives considered in this EA will not have any significant impact on these species. With regard to non-ESA listed marine mammals, the Gulf of Maine benthic longline fishery is currently listed in Category III of the MMPA List of Fisheries. Marine mammal interactions have been recorded between longline gear, harbor seals, and gray seals.

Gilbert and Wynne (1985) studied interactions between harbor seals and commercial fishing gear in New England waters. They reported incidental takes in the groundfish gillnet, herring purse seine, halibut tub trawl (bottom longline), and lobster fisheries. However, they reported that capture of seals by tub trawl was “rare” and that the seals were all hooked through the skin and released alive. Given the general lack of interaction with marine mammals and unlikelihood of mortality due to interaction between seals and tub-trawl, the preferred action will not have significant impacts on harbor or gray seals.

Hook gear has little interaction with Green, Kemp's ridley, and hawksbill turtles. Given the low occurrence of loggerheads and leatherbacks in the study area, the rarity of Green, Kemp's ridley, and hawksbill, and no evidence of takes with benthic longline gear, it is unlikely that the proposed action will have any adverse impact on ESA listed or other sea turtles.

Because implementation of the Operations Plan will assure that most hook vessels remain hook vessels instead of converting to gillnet vessels, this alternative will have a net positive impact on protected species as gillnets have a higher level of interaction with protected species than longline boats (see table 10 in Section 4.1.1 of this EA). Thus, this alternative will have a positive impact on protected species.

Several specific stipulations of the Operations Plan that have impacts on protected species are listed below.

- (1) The hard TAC (Operations Plan #1) stops hook fishing when the aggregate allocation of GB cod is caught ending the potential for interaction;
- (2) Monthly quota targets (Operations Plan #2) stop hook fishing when monthly quotas are caught ending the potential for interaction;
- (3) Days-at-Sea allocations (Operations Plan #3) set an absolute maximum on Sector effort each year;
- (4) Hook size and limits (Operations Plan #8) mandate a size 12 circle hook allowing better survivability prospects for protected species;
- (5) Gear restrictions (Operations Plan #11) ensure that Sector members will only pursue groundfish with hook gear ensuring that Sector members will not use gear such as gillnet gear that has a higher possibility of impacting protected species;
- (6) Exemption from additional measures designed to protect SOC (yellowtail flounder, winter flounder, white hake) such as differential counting of DAS (Operations Plan #14) will allow the Sector to pursue its allocation of GB cod in traditional fishing areas. This will maintain a maximum number of vessels subject to the Sector agreement to only fish with hook and line gear, which would reduce interaction with protected species for these vessels as compared to vessels that employ gear with greater known impacts to protected species.

Biological Conclusions

The impacts on GB cod will be positive as the Sector will harvest up to 20% (~10.03% in FY 2006) of the GB cod stock under a hard TAC ensuring that overfishing is not occurring on that portion of the population. The hard TAC and the requirement to use DAS will provide two mechanisms to restrict both the effort and landings of the Sector. In addition, the Sector is proposing additional trip limits on SOC which are **more restrictive** than proposed for the common pool. Implementation of the Operations Plan will have a net positive effect on the target species (GB cod, GB haddock) and a minimal impact on other species.

**4.2.2 PHYSICAL ENVIRONMENT AND HABITAT IMPACTS
(ALTERNATIVE 2: PREFERRED ALTERNATIVE)**

See section 5.1.2 for background habitat goals statement from NMFS.

Hook gear is known to have minimal impacts on habitat. By assuring that fishermen within the Sector use hook gear, Alternative 2 results in minimal habitat impacts. In addition, the Sector would operate within a specific geographic area.

This excerpt from Table 135 of the Amendment 13 FEIS describes the habitat implications of sector allocation:

Alternative	Overall Habitat Impact	Feature	Description of Essential Fish Habitat Impact
Sector Allocation	Neutral Impact (0)	Approval of sector allocation proposal brought to NMFS through Council. Sector decides about movement between sectors. Allocation based on documented catch. Hard TACs by species.	As a management measure, sector allocation is not expected to have any significant habitat impacts.
<i>GB hook/gillnet sector</i>	Neutral Impact (0)	Approval of hook sector	This sector allocation program is not expected to have any significant habitat impacts, especially since hook gear has been deemed not to have adverse impacts on EFH.

Table 13 - Habitat implications of Sector allocation as presented in the Amendment 13 FEIS. Note that this table does not contemplate every aspect of the Operations Plan. (NEFMC, Am 13 FEIS, Section 5.3.6.7)

Implementation of the Operations Plan will entice more fishermen to opt into the Sector. Thus, more fishermen will be restricted to fishing only on GB. This would reduce habitat impacts in the Gulf of Maine because less hook fishermen will be fishing there, especially when GB is closed during the month of May.

Several specific stipulations of the Operations Plan that have impacts on habitat are listed below.

- (1) The hard TAC (Operations Plan #1) ends Sector impacts on habitat when the allocation is caught each year;
- (2) Monthly quota targets (Operations Plan #2) end Sector impacts on habitat when the monthly quota is caught each month;

- (3) Days-at-Sea allocations (Operations Plan #3) set an absolute maximum on fishing effort and therefore habitat interaction for the Sector;
- (4) Hook size and limits (Operations Plan #8): Hook limits restrict Sector members to a maximum of 4500 hooks inshore. This is in contrast to the 3600 hook limit put in place in the Interim Rule and maintained in Amendment 13. Allowing more hooks to be deployed by longlines will allow more gear to come into contact with the benthic habitat. This may cause a minimal disturbance, but will have a negligible impact on habitat because hook gear has been shown not to have significant habitat impacts and because the Sector will have effort controls and TAC related closures;
- (5) The GB seasonal closure/spawning season restriction (Operations Plan #9) stipulation has minimal impacts on habitat. Even though fishing on GB will occur during May, any habitat interactions will be offset by a reduction in GOM fishing effort. Furthermore, because the Sector is managed under a hard TAC, based on the catch history of Sector members, there will be no yearly net increase in habitat interactions resulting from implementation of the Operations Plan;
- (6) Gear restrictions (Operations Plan #11) ensure that Sector members will only pursue groundfish with hook gear. Without approval of the Operations Plan it is likely that longliners will decide to gillnet or lease their DAS or transfer their permits to gillnetters or otter trawlers. Transfer of hook effort to otter trawls could have negative habitat implications.

Habitat Conclusions

Implementation of the Operations Plan will have minimal habitat impacts because it ensures that hook fishermen remain hooking rather than switching their effort to other gear types that have greater habitat impacts.

4.2.3 SOCIAL AND ECONOMIC IMPACTS (ALTERNATIVE 2: PREFERRED ALTERNATIVE)

Alternative 2 will provide social benefits to the Sector members as well as the Chatham/Harwichport, MA communities. Chatham/Harwichport, MA is more than 71% revenue dependent on groundfish stocks, particularly the GB cod stock. “Chatham’s overall community dependence on multispecies as a percentage of total fisheries revenues from federally-permitted vessels averaged about 71% from FY99 – FY00. It is likely that at least some of the active groundfish vessels in Chatham and Harwichport are even more than 71% dependent on the multispecies fishery”(NEFMC, AM 13 FSEIS, Sec 5.6.1.3). By allowing the Operations Plan to be implemented, fishermen at the local level will be making decisions that impact the Sector members and the larger Chatham/Harwichport community. By making collective decisions, Sector members will foster interconnectedness amongst fishermen that will allow them to become more efficient while protecting the fabric of the traditional fishing community.

The Operations Plan allows a range of management measures that will make the Sector economically viable for both longliners and jiggers. Having a mix of longliners and jiggers in the Sector maximizes cooperation between the two groups, another positive social impact.

Because hook fishing is labor intensive, the Sector will ensure that shoreside jobs such as baiting remain viable opportunities in Chatham/Harwichport. Shoreside jobs and infrastructure are identified and characterized in Section 3.4.4 of this EA. These opportunities will have benefits that trickle throughout the community.

Input controls, such as reduced GB cod trip limits and the GB closure in May, have a significant impact on the Chatham/Harwichport community. “At the social impact informational meeting in Chatham, a few residents of Chatham and Harwichport submitted comments reporting that they have experienced the most significant social impacts from the May closure on Georges Bank to protect cod. The majority of multispecies vessels from Chatham/Harwichport fish for Georges Bank cod and not Gulf of Maine cod. The measures proposed in Amendment 13 that are likely to impact this community group the most are those that modify or add nearshore area closures on Georges Bank and those that modify the Georges Bank cod trip limit.”(NEFMC, AM 13 FSEIS, Sec 5.6.1.3).

The Amendment 13 FEIS concluded that negative distributional impacts affecting Chatham/Harwichport in Amendment 13 are mitigated by Sector allocation:

The Sector allocation and SAPs were specifically designed to foster ways to target healthy stocks to mitigate some of the localized impacts resulting from groundfish management actions. The EA for the settlement agreement estimated that an average of 46.5% of groundfish activity in Chatham and Harwichport could be affected by the recently-implemented Interim Action (NEFMC, AM 13 FSEIS, Sec 5.6.1.3). The input controls of Amendment 13 increased the localized impacts experienced as a result of the Interim Rule.

Hook fishermen and the Chatham and Harwichport area are both dependent on GB cod. Revenue dependence of 71% renders the fleet subordinate to the fish. Because of this, distributional impacts of fishery management are most severely felt in Chatham/Harwichport and amongst hook fishermen when they restrict GB cod. By implementing the Operations Plan and allowing the benefits of community based management, these negative distributional impacts will be minimized or mitigated.

Allowing fishermen to take part in localized decision making, as envisioned in the Operations Plan, maximizes the opportunity for fishermen to make safety conscious decisions and potentially save lives. This community based management also allows for rapid response to changing developments on the ocean. Measures such as the monthly quota and DAS usage pulse the fishery so it does not concentrate in times of questionable weather. Having the flexibility of the DAS transfer/lease stipulation leads to cooperative fishing, allowing the most tired vessels to rest at shore and fishermen to work together to avoid bad weather instead of racing to fish. Implementation of the Operations Plan in 2006 will continue to have major safety benefits and a positive social impact for both the Sector and Chatham/Harwichport area.

Implementation of the Operations Plan and allocation of GB cod will allow Sector members the flexibility to implement management measures that promote the most efficient methods of harvesting the GB cod resource with hook gear. This will allow Sector members to remain economically viable while adjusting to changing economic and fishing conditions. By allowing the Sector to create its own input controls while staying within a hard TAC, Sector members will be able to realize higher economic returns on their investment in the groundfishery.

As discussed in section 5.1.3, Chatham/Harwichport has a high degree of dependence on the groundfishery. The economic impacts of recent multispecies fishery management actions (Section 1.3) and the proposed changes in Framework 42 will be reduced in Chatham/Harwichport through implementation of the Operations Plan. The Sector implementation allows a group of vessels to adapt their fishing behavior so that they remain economically viable in the face of increasing restrictions imposed to rebuild groundfish stocks. The ability to form and operate a Sector is an important component of providing flexibility to small commercial fishing entities to mitigate the economic impacts of the Amendment 13 and subsequent framework adjustments. Further, the geographic location of the

membership of this Sector provides an opportunity for their fishing communities to reduce localized economic impacts.

The Sector Operations Plan allows flexibility to develop the fishery efficiently and offset economic impacts that result from fishing restrictions required to rebuild groundfish stocks. Sector allocation is cited repeatedly as a measure to mitigate economic harm caused by Amendment 13. For instance, “other opportunities have been created to ensure a viable fishing industry. The proposed action will allow the formation of voluntary, self-selecting sectors. These sectors may be able to develop more efficient means to harvest their portion of the resource.” (NEFMC, Am 13 FSEIS, Section 7.2.10). Furthermore, “the Proposed Action contains a number of measures that would provide small entities with some degree of flexibility to be able to offset at least some portion of the estimated losses in profit. The major offsetting measures include the opportunity to use ... sector allocation...” (NEFMC, Am 13 FSEIS, Section 7.3.3.7.2).

With the increasing costs of fuel and overhead, small boat hook fishermen cannot afford the opportunity to make extended trips to sea as the larger vessels do. They therefore must capitalize on their financial opportunities during the relatively short intervals they are at sea. By fishing under a hard TAC rather than an inefficient daily trip limit, Sector members are maximizing their profitability while minimizing their business expenditures.

The Sector is a group of self-selecting fishermen that have come together voluntarily and cooperatively for the purpose of efficiently harvesting an annual allocation of GB cod. By making collective decisions, Sector members have fostered an interconnectedness amongst fishermen that has allowed them to become more efficient while continuing to protect the fabric of the traditional fishing community.

Several specific stipulations of the Operations Plan that have **social and economic impacts** are listed below:

- (1) The hard TAC (Operations Plan #1) sets an absolute maximum poundage of fish that the Sector can catch each year. Although there are times of the year when Sector members will not be fishing, they will have peace of mind that comes from knowing the Sector has an allocation and therefore will not contribute to overfishing. In addition, the hard TAC sets a maximum amount of revenue a fishermen or a fishing community can expect for the year. This allows individuals, businesses, and communities to prepare business plans and fishing plans, providing a degree of economic stability. Furthermore, by preventing overfishing in the Sector, the hard TAC allows the possibility of a viable economic future for the hook fleet;
- (2) Monthly quota targets (Operations Plan #2) spread out the catch evenly throughout the year ensuring opportunities for a diverse set of hook fishermen, including those who, for whatever reason, choose to codfish more intensively at one time of the year or another. This will more evenly distribute the revenues of the Sector amongst individual members as well as the community. In addition, this will ensure that revenues from groundfishing are felt year round, which will be positive for fish processors and other shoreside businesses;
- (3) Days-at-Sea allocations (Operations Plan #3) set an absolute maximum on the amount of effort the hook fleet can expend in attempting to catch the Sector allocation each year. DAS restrictions and DAS cuts and their social impacts overall are outside the scope of this EA and well documented in Amendment 13 FSEIS. The total allocation of DAS to the currently approved Hook Sector is consistent with the baseline DAS period created with Amendment 13 and subsequent Frameworks (FW 42). While additional cuts in DAS will be implemented in Framework 42, the reason for these reductions is not the result of actions or impacts

promulgated by the Sector Operations Plan or membership. For the purposes of this EA, usage of DAS as envisioned in the Operations Plan will serve to maintain the relative distribution of effort within the Sector. This will have positive social benefits by maintaining a social structure that is familiar to the community;

- (4) The Sector call-in provision (Operations Plan #4) allows the Manager to monitor the Sector members so as to ensure that the hard TAC and monthly quotas are not exceeded. This enforcement opportunity will provide economic security for Sector members;
- (5) The Full retention (Operations Plan #6) clause ensures that all legal sized cod caught by Sector members will be landed and counted against the Sector quota. This will prevent regulatory discards of legal sized GB cod, allowing Sector members to maximize per trip revenue. This creates an economic benefit to the Sector, as well as the community and the Nation as a whole because America's fish will not be wasted;
- (6) Hook size limits (Operations Plan #8) provide the flexibility for Sector members to maximize revenue by bringing in more fish when the market is better. It also allows fishermen to take advantage of temporal and seasonal opportunities to catch GB cod while avoiding bycatch of other species. Creating the flexibility to maximize revenue per trip allows the hook fleet to maximize revenue while minimizing expenses. This will bring positive economic impacts;
- (7) The GB seasonal closure/spawning season restriction (Operations Plan #9) allows Sector members to catch their monthly quota in May. This will keep from having the entire fleet out of business in May and will have a positive social impact on the community. In addition, the positive economic impact will be having hook fishermen obtain revenues throughout the year;
- (8) Gear restrictions (Operations Plan #11) ensure that Sector members will only pursue groundfish with hook gear. This will have no economic impacts for the community as a whole because fishermen will not change current practices. In addition, fishermen will not incur the cost of switching gear;
- (9) The DAS redistribution (Operations Plan #12) stipulation allows Sector members to maximize efficiency within the Sector by minimizing the importance of a member's DAS allocation, thus creating a positive social benefit for the fleet and the community. Through resource sharing, the community will achieve maximum rents while minimizing effort in the short term. By using the resource cooperatively as designed in the Operations Plan, Sector members can stay in business as GB cod stocks rebuild and the fleet is rationalized. As stated earlier, this will have corollary safety benefits. Allowing Sector members the necessary flexibility and means to create business plans that offer a reasonable shot at keeping them in business while GB cod rebuilds is the underlying principle of sector allocation; furthermore, exemption from the specific restrictions on inter-vessel leasing (10/20) rule is warranted due to the additional time, area and gear limitations contained within the currently approved Operations Plan;
- (10) Exemption from Observer notification requirements (Operations Plan #13) in the Western US/CA area will allow the Sector members to prosecute their traditional fishery in a manner consistent with the intent of the Sector concept. This measure restores access to traditional fishing grounds by eliminating a restriction which is unnecessary on a fleet of hook and line vessels. Currently, members cannot accurately predict trips into the Western US/CA area 72 hours in advance. Compliance with the 72 hour requirement has resulted in a de-facto area closure for hook-and-line fishermen who traditionally day-fish in pursuit of cod and haddock. Increases in opportunity will have positive economic impacts for sector members;

- (11) Exemption from additional measures designed to protect SOC (yellowtail flounder, winter flounder, white hake) such as differential counting of DAS (Operations Plan #14) will allow the Sector to pursue its allocation of GB cod in traditional fishing areas. This measure is consistent with previously stated intents of Amendment 13 in that it does not require that fishermen who are not the source of a necessary conservation measure be required to accept reductions in fishing opportunity. Faith and security in the concept of “sectors being accountable only for their actions” will be maintained.

Social and Economic Conclusions

Alternative 2 will have positive social impacts especially for the GB hook fleet and the Chatham/Harwichport area. Implementation of the Operations Plan provides safety benefits as well as regulatory flexibility that will allow cooperative harvest and the maximization of economic opportunity. Changes to how DAS are counted or reductions in the allocation of A DAS can be mitigated by the ability of the Sector to distribute DAS among members (Operations Plan #12) to maximize opportunity. The Sector’s ability to harvest its allocation is also protected through the ability to fish in the Western US/CA area without the burden of 72 hour notification to the Observer program. Exemption from differential DAS counting (intended to protect yellowtail and SOC) will allow the Sector to pursue its allocation of GB cod in traditional fishing areas while not undermining the conservation goals of the NE Multispecies FMP.

Implementation of the Operations Plan and allocation of GB cod will allow the Sector the flexibility it needs to maximize revenues while minimizing expenses in the short term. It will allow Chatham/Harwichport to remain in the commercial groundfish business and benefit from the rebuilding of our groundfish resource. Distribution of DAS, cod TAC and SOC species trip limits are the three main ways the Sector will survive the impending cuts of the upcoming Emergency Secretarial action and Framework 42.

4.3 QUALITATIVE COMPARATIVE IMPACT ASSESSMENT

As this document describes, there will be different impacts depending on which alternative is chosen. Each alternative is expected to have a negligible impact on the biological and physical environment, thus each alternative is equal in these respects. Alternative 2 offers positive social impacts and Alternative 1 carries with it negative social impacts. In regards to economic impacts, Alternative 2 provides economic benefits to Sector members that may not be realized as compared to Alternative 1. Table 14 summarizes these impacts as well as cumulative impacts of the alternatives.

Alternative 1 (No Action)

	Summary Impacts	Trip Limits	DAS Cuts	Gear Restrictions	Closed Areas
Biological Impacts					
Overall	Negligible: the same as under Alternative 1	Longliners will likely convert to gillnetters	Longliners convert gear, redirect effort, or lease days	Longliners convert to gillnetters	Longliners convert to gillnetters
Target Species	Negligible: Longliners will convert to gillnetters with slight impacts	A slight possible increase	Positive	A slight net change in takes is possible	No net change in takes
Non-target Species	Negligible: Gillnets may result in more bycatch with slight impacts	A slight possible increase	Negligible	Negligible	No net change in bycatch
Protected Species	Negligible: Gillnets may result in more interactions	A slight possible increase	Negligible	Negligible	No net change in interactions
Habitat Impacts					
Overall	Negligible	Negligible	Regulate gillnet interactions	Reduce amount of potential interactions and protects habitat	Protect EFH
Social Impacts					
Overall	Negative: Longlining fleet will be eliminated	Limit revenues and hurts local community	Impact longliners, resulting in a less diversified community	Result in less local jobs with less longliners	Prevent hook fishing and hurt community
Chatham / Harwich	Negative: Results may be detrimental to shoreside communities	Place stress on community by forcing gear conversions	Force conversion of longliners to gillnetters, stresses to local communities	Force conversion of longliners to gillnetters, adding stress to local communities	Negligible
Hook Sector	Negative: Limited flexibility and no income certainty	Forces conversion of hook fishers to gillnetters	Forces conversion of hook fishers to gillnetters	Forces conversion of hook fishers to gillnetters	Forces conversion of hook fishers to gillnetters
Economic Impacts					
Overall	Negative: Alternative 1 will have disproportionate negative impacts on hook fleets	Reduce hook fishermen incomes and results in less jobs	Reduces hook fishermen incomes and results in less jobs	Costs of gear conversions reduces hook fishermen incomes and results in less jobs	Negligible
Chatham / Harwich	Negative: Disproportionate impacts on a major sector of the fleet	Reduce the number of longliners, eliminating local jobs	Reduces the number of longliners, eliminating local jobs	Reduce the number of longliners, eliminating local jobs	Negligible
Hook Sector	Negative: Impacts on hook fisherman will be most severe	Limit hook fishermen revenues	Hurts hook fisherman because gear is less adaptable to different target species	Prevent hook fisherman from maximizing opportunities	Negligible
Cumulative Impacts -- Neutral (O): Alternative 1 will have positive biological and habitat impacts, but the social and economic impacts on longliners and Chatham/Harwich will be negative. The overall impact will be neutral.					

Table 14- Biological, habitat, social, economic and cumulative impacts of each management measures contemplate in this EA

Alternative 2 – PROPOSED ACTION

Summary Impacts	Aggregate Sector Allocation (Hard TAC)	Monthly Quota Targets	DAS Allocations	Sector Call-In	DAS Transfer /Lease	Full retention	Species Trip Limits	Hook Size & Limits	May Seasonal Closure Exemption	Closed Areas	Gear Restrictions	DAS Pooling & Redistribution	US/CA Observations/Requirements/Exemptions
Biological Impacts													
Overall Biological Impacts													
Most beneficial: Less overfishing and bycatch	Positive	Negligible	Positive	Negligible	Negligible	Positive	Negligible	Positive	Negligible	Negligible	Positive	Negligible	Negligible
Target Species													
Positive: Full retention and allocation ensures less overfishing	Positive: Prevents overfishing	Negligible	Positive: Protect against overfishing	Negligible	Negligible	Ensures no overfishing through discards	Negligible	Reduce undersized cod catches	Negligible: Hard TAC controlled	Negligible	Less gillnet boats and potential cod bycatch	Negligible	Negligible
Non-Target Species													
Positive: No net increase in catch of non-target species	Positive: Stops bycatch once TAC is met	Negligible: Temporal limit on bycatch	Positive: Identify number of possible fishing events	Negligible	Negligible	Not Applicable	Negligible	Increase survivability and escapement	Negligible: DAS limited	Negligible	Ensure use of hook gear with less bycatch	Negligible	Negligible
Protected Species													
Positive: No net increase and minimal impacts	Positive: No net increase and minimal impacts	Stop fishing at quota and reduces interactions	Negligible	Negligible	Negligible	Negligible: Hook fishery not considered a threat	Negligible	Increase survivability and escapement	Negligible: Hook fishery not considered a threat	Negligible	Ensure use of hook gear with less bycatch	Not Applicable	Negligible: Hook fishery not considered a threat
Habitat Impacts													
Positive: More hook fisherman and less habitat interactions	Positive: Ends sector impacts once TAC is met	End sector impacts once quota is met	Negligible: Gear considered low impact	Negligible	Negligible	Not Applicable	Negligible	Allow minimal disturbance	Negligible: Gear considered low impact	Negligible	Prevent conversion to gillnet gear	Not Applicable	Negligible: Gear considered low impact
Social Impacts													
Overall Social Impacts													
Positive: Maximum social benefits	Positive: Provides certainty and long range planning	Positive	Positive	Negligible	Negligible	Positive	Negligible	Not Applicable	Positive: Safety and flexibility increase	Negligible	Not Applicable	Positive	Positive: Safety flexibility increase
Chatham/Harwich													
Positive: Shoreside jobs would remain	Positive: Maintains low impact hook fishery	Spread catch throughout year and creates more opportunities	Positive: Continue social structure familiar to community	Negligible	Negligible	Ends regulatory discards and creates goodwill	Negligible	Not Applicable	Positive: Permits DAS to be used during safer month	Negligible	Not Applicable	Maximizes efficiency within sector	Positive: Restores spatial access to hook fishery
Hook Sector													
Positive: Safety benefits, more cooperation	Positive: Maintains low impact hook fishery	Spread catch throughout year and creates more opportunities	Negligible	Negligible	Negligible	Ends regulatory discards and increases efficiency	Negligible	Not Applicable	Positive: Restores temporal access to hook fishery	Negligible	Not Applicable	Maximizes efficiency within sector	Positive: Restores spatial access to hook fishery

Economic Impacts													
Overall Economic Impacts													
Positive: Most efficient measures will be utilized	Positive: Allows for planning and ensures economic stability	Positive: Evenly distribute resources throughout year	Positive	Negligible	Negligible	Positive	Negligible	Positive	Negligible: Possible benefit to members due to limited supply	Negligible	Not Applicable	Positive	Positi
Chatham/Harwich													
Positive: Small entity flexibility	Positive: Provides realistic expectations of economic activity	Positive: Provide groundfish to communities throughout the year	Maintain relative distribution of catches	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible: Allows segment of fleet to provide opportunity during closure	Negligible	Not Applicable	Negligible	Positi
Hook Sector													
Positive: Creates efficiency and stabilizes revenues	Positive: Allows for planning	Positive: Distributes catches throughout the year and creates stability	Maintain relative distribution of catches	Positive: ensures economic security for Sector members	Negligible	Prevents discards and maximizes per trip revenue	Negligible	Create flexibility and allows fishers to maximize efficiency	Positive: Allows portion of TAC to be fished during "good" weather month	Negligible	Not Applicable	Positive: Maximizes efficiency	Positi
Cumulative Impacts -- Positive (+): This alternative would reap the positive biological and habitat impacts of Amendment 13, while still protecting hook fishermen and the local community of Chatham/Harwich													

Table 14 continued- Biological, habitat, social, economic and cumulative impacts of each management measures contemplate in this EA

4.4 ESSENTIAL FISH HABITAT (EFH) ASSESSMENT

According to the Magnuson Act, Essential Fish Habitat (EFH) “means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” (Department of Commerce, 1996). The EFH Final Rule identifies adverse impacts as “any impact, which reduces quality and/or quantity of EFH. Adverse effects from fishing may include physical, chemical, or biological alterations of the substrate, and loss of, or injury to, benthic organisms, prey species and their habitat, and other components of the ecosystem” (NEFMC, 1998).

The *Workshop on the Effects of Fishing Gear on Marine Habitats off the Northeastern United States*, October 23-25, 2001 had the following findings regarding the impacts of longline on marine habitats: “The panel concluded that longlines cause some low degree impacts in mud, sand and gravel habitats” (Department of Commerce, 2002). Use of longline will have “low degree impacts” to habitats. As stated in the EFH final rule, the intent of EFH “is to regulate fishing gears that reduce an essential habitat's capacity to support marine resources, not practices that produce inconsequential changes in the habitat” (Department of Commerce, 2002). Therefore, each of the alternatives in this EA will have negligible impact on EFH.

5.0 CUMULATIVE IMPACTS

Cumulative impacts are the impacts on the environment that results from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions. Table 14 provides an overview of the cumulative impacts of the two alternatives. Much of the cumulative effects outlined therein and related below are derivative of the detailed Environmental Impacts sections of this document (5.1 through 5.6) and the cumulative impacts discussion in the Amendment 13 FSEIS (the most recent FSEIS). The analyses that follow are qualitative in nature.

5.1 TEMPORAL SCOPE

5.1.1 PAST, PRESENT AND REASONABLY FORESEEABLE FUTURE ACTIONS

Past, present, and reasonably foreseeable future actions in the NE Multispecies fishery are described, and their impacts summarized, in Section 1.3 of this document. The cumulative impacts of the most recent actions in the NE Multispecies are summarized here.

Cumulative Sector Impacts following implementation of Frameworks 40A, 40B, 41 and 42

The three recent framework adjustments (Frameworks 40A, 40B, 41) resulted in minimal but positive cumulative impacts to the Sector. The Sector's ability to access the SAP has had positive impacts; the Sector will maintain a similar allocation of GB cod (10 – 13%) creating minimal impacts; and the Sector will catch approximately the same amount of haddock in FY 05 as it did in FY 04. Impacts to non-target species should remain at very low levels (>1%) due to the gear restrictions which are part of the Sector Harvest Rules (hook and line only).

Measures proposed in the Secretarial Action and Framework 42 have the potential to further reduce efficiency and fishing opportunities for Sector members. The proposed action in the Secretarial Action and FW 42 are expected to negatively impact the members of the GB Hook Sector by compromising the opportunity of the Sector to harvest its allocation of GB cod and to

continue to target the underutilized GB haddock resource through differential DAS counting. The measures under consideration are designed to have minor positive impacts on biological resources (i.e., reduce mortality on certain groundfish stocks), however, these measures have the potential to result in disproportionate economic impacts on Sector members.

5.2 ALTERNATIVE 1: NO ACTION

No cumulative impacts have been identified for Alternative 1 that have not been analyzed by the FSEIS for Amendment 13 (the most relevant document as no final documents for Framework 42 are yet available). Because Alternative 1 is a continuation of the input controls that have evolved since Amendment 5 in the 1990s, the cumulative impacts are the same as Amendment 13. The cumulative impacts were analyzed in Amendment 13 FSEIS: “The majority of the fishery administration measures have only limited or negligible effects on communities, stocks, protected species, and habitat. The additive effects of these measures in conjunction with other Amendment 13 alternatives, including measures to address stock rebuilding and capacity issues, as well as past actions in the groundfish fishery are low or negligible” (NEFMC, Amendment 13 FSEIS, Section 5.7.7.1). Section 5.7 of the Amendment 13 FSEIS contains extensive analysis of the cumulative impacts of the regulations enacted by the Amendment, including Sector Allocation.

While the overall cumulative impacts of Alternative 1 are considered to be neutral, the cod dependent hook fishery of Georges Bank would not survive the multiple regulation changes that apply to common pool vessels and Alternative 1. Left with fewer DAS, a high dependence on GB cod, and a limit on the number of hooks which can be used in a given day, the hook fishery will likely experience negative additive direct and indirect social and economic impacts.

5.3 ALTERNATIVE 2 (PREFERRED ALTERNATIVE)

Alternative 2 would approve and implement the Sector Operations Plan. This will have minimal or positive direct biological, habitat, social and economic benefits, as outlined in Section 5.2 of this EA, and also by the excerpt below from Table 363, Section 5.7 of the Amendment 13 FSEIS. It should be noted that this excerpt does not present cumulative impacts per se, but instead demonstrates the minimal to positive nature of the categorical impacts of sector allocation, both general and gear specific. However, it should be noted that because of the limited scope (less than 50 vessels compromising less than 20% of the catch for one of 15 managed species) of the proposed management measure, the resulting cumulative impacts are minimal relative to the overall context of the NE Multispecies fishery. Implementation of the Operations Plan would allow the Sector the flexibility it needs to maximize revenues while minimizing expenses in the short term. It will allow Chatham/Harwichport to remain in the commercial groundfish business and benefit from the rebuilding of our groundfish resource.

GB has been intensively fished for decades or centuries with all manner of gear for all manner of species. Consequently, many fisheries have impacted the ecosystem found there. It is unlikely that the proposed action would interact with any other fisheries or actions to cause direct impacts on biological, physical, social, or economic resources in the GB management area that, when considered together, would result in cumulative impacts. Rather, in the context of the groundfish fishery, the proposed action will cause some minor direct and indirect impacts.

Alternative Name	Effects on Communities	Effects on Groundfish Stocks	Effects on Protected Species	Effects on Habitat
Sector Allocation (general) (Proposed action)	(+) increased opportunity participate in regulatory process; provides autonomy to fishers	(0)	(0)	(0)
• Formation of a Sector				
• Sector Review and Approval				
o Option 1 – Streamlined Approval Process				
o Option 2 – Periodic Adjustment Process (Proposed action)				
• Movement Between Sectors				
o Option 1				
o Option 2				
o Option 3 (Proposed action)				
• Allocation of Resources				
o Option 1				
o Option 2 (Proposed action)				
• Mortality/Conservation Controls				
• Enforcement of Sector Provisions/VMS Requirements				
• Interaction of Sector with Common Pool Vessels				
Georges Bank Hook/Gillnet Sector Allocation	(+) increased opportunity to participate in regulatory process; provides autonomy to GB cod hook and gillnet sectors	(+) gear restrictions, TACs, closed seasons	(0)	(0)
• Georges Bank Cod Hook Sector (Proposed action)				
• Georges Bank Cod Gillnet Sector (Not selected)				

Table 15- Impacts of Sector Allocation components of Amendment 13 (NEFMC, Am 13 FSEIS, Section 5.7)

While Alternative 2 will have negligible biological and habitat implications, its combined positive social and economic impacts constitute a positive impact, mainly experienced by the GB hook fleet and the Chatham/Harwichport area. Although negligible, the biological impacts of Alternative 2 have the potential to be positive: a portion of GB cod landings will be securely constrained under the three fold protection of a hard TAC, DAS usage, and full retention. When social and economic impacts are considered, Alternative 2 will have positive cumulative impacts for the GB hook fleet and the Chatham/Harwichport area that will not be realized under Alternative 1. Because the GB cod trip limit is reduced, past actions, such as Amendment 13, and upcoming actions, such as Framework 42, have and are expected to continue to have disproportionate negative impacts on communities and fleets that are most dependent on GB cod. Chatham/Harwichport and the GB hook fleet, therefore, are expected to share a disproportionate burden under the current regulatory environment. The disproportionate economic impacts of the past, present and reasonably foreseeable future actions (see Section 1.3 for a detailed description of management actions in the NE Multispecies fishery) can be mitigated through the positive direct impacts that will be experienced through implementation of the Operations Plan: “the approval of the Ho[o]k sector may mitigate these impacts to some extent” (NEFMC, Am 13 FSEIS, Executive Summary). The net positive impacts that would be derived from many factors outlined in Sections 5.2.3 and 5.2.4 of this EA, include the preservation of bottom longlining as a viable business, the preservation of the infrastructure that supports it, and the localized, cooperative effort that crafted the Operations Plan. The excerpt below, relevant parts of Table 367, Section 5.7 of the Amendment 13 FSEIS, presents the cumulative impacts of the proposed action:

Alternative Name	Cumulative Effects on Communities	Cumulative Effects on Groundfish Stocks	Cumulative Effects on Protected Species Species	Cumulative Effects on Habitat
Georges Bank Hook/Gillnet Sector Allocation	positive for hook/gillnet sectors, extent unknown	positive, low (Georges Bank)	unknown	none
• Georges Bank Cod Hook Sector (selected)				

Table 16- Relevant excerpts from the summary of impacts of Amendment 13 (NEFMC, Am 13 FSEIS, Section 5.7)

The Amendment 13 FSEIS concluded that sector allocation had the potential to result in some level of positive cumulative impacts for fishermen and their associated communities, since it provides them with more control over specific management measures that will affect their fishing practices, lending flexibility to fishers and a greater sense of involvement in the regulatory process. Amendment 13 found cumulative effects on the resource and habitat as a result of sector allocation to be negligible (NEFMC, Am 13 FSEIS, Section 5.7.7.1). Operation of the Sector over the past two years has supported the conclusion of Amendment 13, and the economic benefits, with negligible biological impacts, are expected to continue with the approval of the Sector Operations Plan for the 2006 fishing year.

Furthermore, by creating and implementing a model for other groups to create sectors, Alternative 2 will have a positive, though unquantifiable, social cumulative impact. As groups of fishermen voluntarily come together for the purpose of securing a resource allocation in New England, the Operations Plan provides a model. By being the first fishermen in New England to voluntarily accept a hard TAC-based and community based management regime, the Sector is creating a positive example for the fleet that could translate into social and economic benefit to other fishing groups, while continuing to meet mortality objectives on groundfish stocks.

Past management measures, beginning with Amendment 5 in the mid-1990's, have, over time, restricted GB hook fishermen with input controls that make hook fishing more and more inefficient. This inefficiency, as characterized in Alternative 1, would likely to force most longliners to switch to other gears, otherwise shift their effort to more efficient vessels, or relocate their businesses to the GOM. As an extension of this scenario, Framework 42 is expected to continue to reduce opportunities to harvest healthy stocks as it strives to maintain the rebuilding program initiated in Amendment 13. Alternative 2 provides an opportunity to mitigate the social and economic impacts of Framework 42 by allowing access to the target species while limiting impacts on Species of Concern (SOC). Exclusive use of hook and line gear ensures that catch of SOC is minimal (see table 11). While GB cod is listed as a SOC, the Sector's hard TAC will control impacts on this stock. The continued use of DAS and the flexibility to redistribute these DAS onto the safest platforms insures positive social and economic impacts to the Sector. The Sector, with implementation of the Operations Plan, has a positive cumulative impact on the GB hook fleet and the Chatham/Harwichport area as it allows the fleet to counter the inefficiencies of past management actions.

Summary of Cumulative Impacts

As a whole, approval and implementation of the suite of management measures contained in the Operations Plan (Alternative 2), when considered in conjunction with other past, present and reasonably foreseeable future actions, would result in minor positive social and economic cumulative impacts. It would not result in cumulative impacts to non-target species, target species, protected resources, or habitat. Each measure in the Operations Plan is designed to be a piece of a larger whole that creates an opportunity for the GB hook fleet to survive and for Chatham/Harwichport to remain an active part of the commercial groundfish industry in New England. Alternative 1 would not provide additional social or economic benefit to Sector members, nor would it provide any additional protection or benefits to non-target species, target species, protected resources, or habitat, resulting in neutral cumulative impacts. Whereas the biological and habitat impacts of Alternative 2 are not compelling in and of themselves,

when coupled with the positive social and economic impacts that Alternative 2 offers, Alternative 2 offers a positive cumulative impact.

6.0 LIST OF PREPARERS

This document was prepared through the cooperative efforts of members of the staffs of the Cape Cod Commercial Hook Fishermen's Association, NMFS & NEFMC

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7.0 LIST OF AGENCIES AND PERSONS CONSULTED

The Northeast Regional Office of NMFS and the NEFMC Staff were consulted in preparing this EA.

8.0 APPLICABLE LAW

8.1 MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT

The proposed action will comply with all elements of the MSFCMA and the NE Multispecies FMP.

8.2 ENDANGERED SPECIES ACT

Section 7 of the ESA requires Federal agencies conducting, authorizing, or funding activities that affect threatened or endangered species to ensure that those effects do not jeopardize the continued existence of listed species. The impacts of the proposed action on protected species are considered in section 4.2.1 of the EA and, based on the limited interaction of endangered species with hook gear (section 2.1.3), NOAA Fisheries Service has determined that there would be no direct or indirect impacts on protected resources, including endangered or threatened species or their habitat. None of the proposed exempted activities are expected to result in the additional adverse impacts that would change the basis for the determinations in previous consultations.

8.3 MARINE MAMMAL PROTECTION ACT

The impacts of the proposed action on protected species are considered in section 4.2.1 of the EA and, based on the limited interaction of endangered species with hook gear (section 2.1.3), NOAA Fisheries

Service has concluded that there would be no direct or indirect impacts on marine mammals, that the proposed action is consistent with the provisions of the MMPA, and that the proposed action would not alter existing measures to protect the species likely to inhabit the management units of the subject fisheries.

8.4 NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

Finding of No Significant Impact for Approval of the Georges Bank Cod Hook Sector Operations Plan

National Marine Fisheries Service

National Oceanic and Atmospheric Administration Administrative Order 216-6 (NAO 216-6) (May 20, 1999) contains criteria for determining the significance of the impacts of a proposed action. In addition, the Council on Environmental Quality regulations at 40 C.F.R. '1508.27 state that the significance of an action should be analyzed both in terms of "context" and "intensity." Each criterion listed below is relevant in making a finding of no significant impact and has been considered individually, as well as in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria and CEQ's context and intensity criteria. These include:

1) *Can the proposed action reasonably be expected to jeopardize the sustainability of any target species that may be affected by the action?*

Response: The proposed action will not jeopardize the sustainability of the target species (cod) affected by the action because the GB cod hook sector has a set total TAC for cod that will be adhered to on an annual basis. The biological impacts of the proposed action are analyzed in Section 5.2.1.

2) *Can the proposed action reasonably be expected to jeopardize the sustainability of any non-target species?*

Response: The proposed action is not expected to jeopardize the sustainability of any non-target species (Sections 4.2.1 and 2.1.2). Mortality of non-target species will be controlled within the Sector by continued use of DAS. In addition, trip limits, which are more restrictive than proposed for the common pool, will further reduce the impacts to non-target species.

3) *Can the proposed action reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat as defined under the Magnuson-Stevens Act and identified in FMPs?*

Response: The proposed action is not expected to allow substantial damage to the ocean and coastal habitats and/or EFH as defined under the Magnuson Act and identified in the NE Multispecies FMP. The hook gear used by Sector members in the proposed action has minimal adverse impact on marine habitats or EFH (Section 5.2).

4) *Can the proposed action be reasonably expected to have a substantial adverse impact on public health or safety?*

Response: The proposed action is not expected to have a substantial adverse impact on public health and safety. The Sector involves routine fishing operations and will not decrease safety at sea. In fact, it is expected that the centralized and local controls placed on the Sector will result in positive impacts on public health and safety. This will occur through daily monitoring and increased communication amongst Sector members, and the ability to respond rapidly to changing developments on the ocean.

Although NAO 216-6 refers to A “substantial impacts,” this is understood to mean “significant impacts on the environment.”

5) *Can the proposed action reasonably be expected to adversely affect endangered or threatened species, marine mammals, or critical habitat of these species?*

Response: The proposed action is not expected to have an adverse impact on endangered or threatened species, marine mammals, or critical habitat of these species. As discussed in Section 5.2.1, hook-and-line gear is not expected to interfere with threatened species, marine mammals, or their habitats.

6) *Can the proposed action be expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?*

Response: The proposed action is not expected to have a substantial impact on biodiversity and ecosystem function within the affected area. Implementation of the Operations Plan will allow a maximum number of hook vessels to remain active in the hook fishery rather than converting to gillnetting, leasing days to gillnetters or otter trawlers, or selling their permits to gillnetters or otter trawlers. As a result, the biodiversity and ecosystem impacts common to the gillnet and otter trawl fleet will not expand. Impacts to biodiversity and components of the ecosystem as a result of this action are expected to be minimal, as elements of the Sector Harvest Plan are intended to focus on landings of target species only (cod or haddock), which is restricted by a number of effort controls such as a hard TAC, with minimal disruption or impacts to the ecosystem as a whole.

7) *Are significant social or economic impacts interrelated with natural or physical environmental effects?*

Response: The social and economic impacts of the proposed action are not interrelated with significant natural or physical environmental effects. While the proposed action has the potential to provide positive social and economic relief to the GB hook fleet that is disproportionately affected by Amendment 13 and upcoming management actions, impacts to the natural and physical environment from this action are expected to be negligible (see Sections 4.2.1 and 4.2.2).

8) *Are the effects on the quality of the human environment likely to be highly controversial?*

Response: The implementation of the Sector was unanimously supported by the New England Fishery Management Council. During public comment, strong support was received for the sector allocation from a wide diversity of sources throughout the New England fishing community, the public, and the environmental community. The effects on the quality of the human environment caused by implementation of the Sector are likely to be positive and supported by a wide constituency of New England fishery stakeholders.

9) *Can the proposed action reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas?*

Response: The proposed action cannot reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas because these areas are not present within the area affected by this action.

10) *Are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?*

Response: The impacts on the human environment are not likely to be highly uncertain nor do they involve unique or unknown risks. This action would allow the third year of Sector operation the would support the participation of fishermen in localized decision making. This action would continue a sector-specific management regime that takes into account the needs of the hook fishermen on Georges Bank and results in minimal impacts to the human environment. Effects to the human environment are detailed in sections 3.4 and 5.2 of the proposed action.

11) *Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?*

Response: The proposed action is not related to other actions with individually insignificant, but cumulatively significant impacts. The Sector is the first example of New England groundfishermen innovating novel and highly adaptive means of local decision-making, self-monitoring, and enforcement. Through the individual management measures detailed in the proposed action and the ability to adapt these measures to the fleet's constantly changing working conditions, the Sector will serve as a model for the future of sustainable fisheries in New England.

12) *Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural or historical resources?*

Response: The proposed action is not likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural or historical resources because these areas are not present in the affected environment.

13) *Can the proposed action reasonably be expected to result in the introduction or spread of a non-indigenous species?*

Response: The proposed action cannot reasonably be expected to result in the introduction or spread of non-indigenous species.

14) *Is the proposed action likely to establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration?*

Response: Amendment 13 established the precedent of Sector allocations. The proposed action is a continuation and implementation of that decision. This proposed action represents

the third year that the Sector Operations Plan has been approved. Future decisions in principle are not at question in this proposal

15) *Can the proposed action reasonably be expected to threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment?*

Response: The proposed action is not expected to threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

16) *Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?*

Response: The proposed action is not expected to result in cumulative adverse effects that could have a substantial effect on target or non-target species. As stated in Section 5.0, impacts on resources, including groundfish and other stocks, are expected to be minimal. This proposal imposes additional restrictions on the Sector designed to further protect target and non-target species.

DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting Environmental Assessment prepared for Approval of the Georges Bank Cod Hook Sector Operations Plan it is hereby determined that the Approval of the Georges Bank Cod Hook Sector Operations Plan will not significantly impact the quality of the human environment as described above and in the supporting Environmental Assessment. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an EIS for this action is not necessary.

Assistant Administrator for Fisheries, NOAA Date
[or Responsible Program Manager, [identify Office]]

8.5 ADMINISTRATIVE PROCEDURE ACT (APA)

Section 553 of the Administrative Procedure Act establishes procedural requirements applicable to informal rulemaking by Federal agencies. The purpose of these requirements is to ensure public access to the Federal rulemaking process, and to give the public adequate notice and opportunity for comment. At this time, NMFS is not requesting any abridgement of the rulemaking process for this action.

8.6 PAPERWORK REDUCTION ACT (PRA)

The purpose of the PRA is to control and, to the extent possible, minimize the paperwork burden for individuals, small businesses, nonprofit institutions, and other persons resulting from the collection of information by or for the Federal Government. This action does not propose to

modify any existing collections, or to add any new collections; therefore, no review under the PRA is necessary.

8.7 DATA QUALITY ACT (SECTION 515) NMFS TO UPDATE

In accordance with the Data Quality Act (Public Law 106-554), the Office of Management and Budget directed each federal agency to issue guidelines that ensure the quality, objectivity, utility, and integrity of information disseminated by federal agencies. The NOAA Section 515 Information Quality Guidelines require a series of actions for each new information product subject to the Data Quality Act. Information must meet standards of utility, integrity, and objectivity. This section provides information that demonstrates compliance with these standards.

Utility of Information Product

A *Is the information helpful, beneficial or serviceable to the intended user?*

The Environmental Assessment contains a description of the authority for the formation of a Sector, as well as a description of the Georges Bank Cod Hook Sector and the proposed Sector agreement and operations plan. In addition, this EA contains specific information on the proposed number of participants in the Sector and the amount of cod TAC proposed for allocation to the Sector. Therefore, the EA contains the various information elements of interest to the public and necessary for decision makers to make informed decisions.

B *Is the data or information product an improvement over previously available information? Is it more current or detailed? Is it more useful or accessible to the public? Has it been improved based on comments from or interactions with customers?*

The proposed Sector Agreement and Operations Plan for the 2006 fishing year are different from those in effect for the 2005 fishing year. The operations plan was slightly revised, based upon the experiences of the Sector members during the 2005 fishing year. Secondly, the Operations plan, Sector Agreement, and TAC calculation have been revised to reflect proposed changes to eligibility criteria for the sector. The proposed revisions to the eligibility criteria and calculation of the TAC would broaden the range of potential participants to include vessels that have not historically fished with hook gear, and would broaden the range of data utilized for the calculation of the Sector's TAC (to include non-hook landings).

C. *What media are used in the dissemination of the information? Printed publications? CD-ROM? Internet? Is the product made available in a standard data format? Does it use consistent attribute naming and unit conventions to ensure that the information is accessible to a broad range of users with a variety of operating systems and data needs?*

The Federal Register notice that announces the proposed Operations Plan and Sector Agreement will be made available in printed publication and on the Internet website for the Northeast Regional Office. Instructions for obtaining a copy of this EA are included in the Federal Register notice.

Integrity of Information Product

The information product meets the following standards for integrity:

If information is confidential, it is safeguarded pursuant to the Privacy Act and Titles 13, 15, and 22 of the U.S. Code (confidentiality of census, business and financial information). (e.g., Confidentiality of Statistics of the Magnuson-Stevens Fishery Conservation and Management Act; NOAA Administrative Order 216-100 – Protection of Confidential Fisheries Statistics; 50 CFR 229.11, Confidentiality of information collected under the Marine Mammal Protection Act.)

Objectivity of Information

(1) Indicate which of the following categories of information products apply for this product:

- Original Data
- Synthesized Products
- Interpreted Products
- Hydrometeorological, Hazardous Chemical Spill, and Space Weather Warnings, Forecasts, and Advisories
- Experimental Products
- X** Natural Resource Plans
- Corporate and General Information

(2) Describe how this information product meets the applicable objectivity standards.

What published standard(s) governs the creation of the Natural Resources Plan? Does the Plan adhere to the published standards?

The Sector Operations Plan and Sector Agreement must comply with the requirements of the Northeast Multispecies Fishery Management Plan (FMP), as well as the requirements of the Magnuson-Stevens Act, the National Environmental Policy Act, the Administrative Procedures Act, the Coastal Zone Management Act, the Endangered Species Act, the Marine Mammal Protection Act, and Executive Orders 12612 (Federalism), 12630 (Property Rights), 12866 (Regulatory Planning), and 13158 (Marine Protected Areas). The NMFS Administrator, Northeast Region, has authority, under 50 CFR 648.87, to approve the Operations Plan and Sector Agreement and allocate TAC to the Sector. NOAA Fisheries has made a preliminary determination that the proposed Sector Agreement and Operations Plan are consistent with the FMP and all applicable laws. In making a final decision, NOAA Fisheries will take into account comments received on the proposed rule and pertinent information that may be more current than previous information.

Was the Plan developed using the best information available? Please explain.

The proposed Sector Agreement and Operations Plan are based upon currently available information, and the proposed TAC is based upon the best scientific information available.

Has a clear distinction been drawn between policy choices and the supporting science upon which they are based? Have all supporting materials, information, data and analyses used within the Plan been properly reference to ensure transparency?

The policy choices that are proposed are supported by the available scientific information. The overall GB cod target TAC from which the proposed GB cod hard TAC for the Sector is derived was based upon Amendment 13 data as well as the 2005 GARM II data, in accordance with the process described in the FMP. The supporting materials and analyses used to develop the TAC

are contained in readily available documents. The process utilized to develop the Sector TAC is described in the FMP.

Describe the review process of the Plan by technically qualified individuals to ensure that the Plan is valid, complete, unbiased, objective and relevant. For example, internal review by staff who were not involved in the development of the Plan to formal, independent, external peer review. The level of review should be commensurate with the importance of the Plan and the constraints imposed by legally enforceable deadlines.

The NMFS Administrator, Northeast Region made a preliminary determination that the proposed Sector Operations Plan, Sector Agreement, and proposed Sector TAC are consistent with the FMP and applicable laws. Staff from the Sustainable Fisheries Division and Fishery Statistics Division, as well as staff responsible for implementation of the National Environmental Policy Act (NEPA) reviewed the pertinent information. Establishment of the overall GB cod target TAC involved scientists with specialties in population dynamics, stock assessment methods, and demersal resources. In accordance with the FMP regulations, the Regional Administrator will make a final determination after obtaining public comment.

8.8 E.O. 13132 (FEDERALISM)

This E.O. established nine fundamental federalism principles for Federal agencies to follow when developing and implementing actions with federalism implications. The E.O. also lists a series of policy making criteria to which Federal agencies must adhere when formulating and implementing policies that have federalism implications. However, no federalism issues or implications have been identified relative to the measures proposed in the Approval of the Georges Bank Cod Hook Sector Operations Plan. This action does not contain policies with federalism implications sufficient to warrant preparation of an assessment under E.O. 13132. The affected states were closely involved in the original development and approval of the Sector through their representation on the Council (all affected states are represented as voting members of at least one Regional Fishery Management Council). No comments were received from any state officials relative to any federalism implications that may be associated with this action.

8.9 E.O. 13158 (MARINE PROTECTED AREAS (MPAS))

The Executive Order on MPAs requires Federal agencies whose actions affect the natural or cultural resources that are protected by an MPA to identify such actions and, to the extent permitted by law and to the maximum extent practicable, in taking such actions, avoid harm to the natural and cultural resources that are protected by an MPA. The E.O. directs Federal agencies to refer to the MPAs identified in a list developed and maintained by the Departments of Commerce and Interior. As of the date of submission of this document, however, the List of MPAs has not yet been developed. No further guidance related to this E.O. is available at this time.

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10.0 GLOSSARY OF ACRONYMS AND TERMS

CA I	Georges Bank Closed Area I
CA II	Georges Bank Closed Area II
CCCHFA	Cape Cod Commercial Hook Fishermen's Association
DAS	Days-at-Sea
DEIS	Draft Environmental Impact Statement
DSEIS	Draft Supplemental Environmental Impact Statement
EFH	Essential Fish Habitat
EFP	Exempted Fishing Permit
ESA	Endangered Species Act of 1973
FMP	Fishery Management Plan
FONSI	Finding of No Significant Impact
FSEIS	Final Supplemental Environmental Impact Statement
FY	Fishing Year
GB	Georges Bank
GBCHSA	Georges Bank Cod Hook Sector Area
GOM	Gulf of Maine
Handline	Hook gear employed by hand (jig)

Jig	Hook gear employed by hand or rod
Jigger	Fisherman or vessel which employs rod and reel and/or handline
Longline	Demersal longline or tub trawl
LOF	List of Fisheries
Magnuson Act	Magnuson-Stevens Fishery Conservation and Management Act of 1996
Manager	Individual employed by the Sector to manage the Sector
MARFIN	Marine Fisheries Initiative
MMPA	Marine Mammal Protection Act of 1972
mt	Metric Ton
MSY	Maximum Sustainable Yield
NE	New England
NEFMC	New England Fishery Management Council
NEFSC	Northeast Fisheries Science Center
NERO	Northeast Regional Office
NMFS	National Marine Fisheries Service
NOAA Fisheries	National Marine Fisheries Service
NOAA	National Oceanographic and Atmospheric Administration
Operations Plan	Georges Bank Cod Hook Sector Allocation Operations Plan
RA	Regional Administrator
Sector	Georges Bank Cod Hook Sector Allocation
SFA	1996 Sustainable Fisheries Act Amendment to the Magnuson-Stevens Fishery Conservation and Management Act
SEIS	Supplemental Environmental Impact Statement
SOC	Species of Concern
SSB	Spawning Stock Biomass
TAC	Total Allowable Catch
VMS	Vessel Monitoring System
WGOM	Western Gulf of Maine Closed Area