UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Office of Oil Spill Damage
Assessment and Restoration
P.O. Box 210029
Auke Bay, Alaska 99821

RPWG
G

July 13, 1993

Dr. John Armstrong
U.S. Environmental Protection Agency
Office of Coastal Waters
Water Division, WD-139
1200 Sixth Avenue
Seattle, WA 98101

Dear John:

RE: IAG (No. DW 14957002-01-0) Between USEPA and USFWS

Barbara Iseah, RPWG's Administrative Assistant, found a copy of the subject IAG which indicates that the USFWS should have performed two tasks. You probably have a copy somewhere in the office; accordingly, I am not enclosing a copy. Task 1 was a pilot project to study the distribution and abundance of forage fish in relation to marine birds and marine mammals in northeastern Prince William Sound. More of interest at this time is Task 2, which was an assessment of beach survey data for restoration, presumably for habitat acquisition. While I did not describe this second task correctly (I asked about beach surveys to assess hydrocarbon contamination), clearly no one that I contacted in USFWS was aware that the $36.5K USEPA provided by this IAG also supported the second task. What is even more interesting is that David Irons is listed as the Project Leader for USFWS, and you know that I talked with him at some length about the project (IAG).

Now that I have a better fix on what to ask USFWS and David Irons in particular, I should be able to bring this issue to resolution quickly. Both tasks required a "report on their success by September 30, 1990." For Task 2, success refers to the "creation of a databank via GIS and d-base, for future reference use in restoration projects." As I indicated in our earlier conversation today, I again have a call in to David Irons. He is out of town but I should know something later in the week.

Yours very truly,

John A. Strand,
Restoration Manager

cc: RPWG files

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Office of Oil Spill Damage
Assessment and Restoration
P.O. Box 210029
Auke Bay, Alaska 99821

RPWG
G

August 30, 1993

Dr. John Armstrong
U.S. Environmental Protection Agency
Office of Coastal Waters
Water Division. WD-139
1200 Sixth Avenue
Seattle, WA 98101

Dear John:

RE: IAG (No. DW 14957002-01-0) between USEPA and USFWS

I have heard back from Carol Gorbics (she was in training status for most of August) and she assures me that she will work with you to resolve the issue of a final report for Task 2 of the subject IAG. There still is the possibility that funds associated with Task 2 were never expended, but this can only be determined by the appropriate finance departments of both USEPA and USFWS.

Because I will be leaving the Restoration Planning Work Group and National Marine Fisheries Service on September 16th (I have accepted a position with EA Engineering, Science, and Technology in Redmond, WA), I have arranged for you to work directly with Carol on a final resolution of this issue. Carol can be reached on (907) 786-3494; her mailing address is 1011 East Tudor Road, Anchorage, AK 99503. I believe that Carol will ask her finance department for a full accounting of expenditures on the subject IAG, but you should plan to talk with Carol when you return to work after the holiday. Thank you.

Yours very truly,

John A. Strand,
Restoration Manager

cc: Carol Gorbics
RPWG files

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Office of Oil Spill Damage
Assessment and Restoration
P.O. Box 210029
Auke Bay, Alaska 99821

July 30, 1993

Dr. John W. Armstrong
U.S. Environmental Protection Agency
Office of Coastal Waters
Water Division, WD-139
1200 Sixth Avenue
Seattle, WA 98101

Dear John:

RE: Interagency Agreement DW 13957045-01-1
Coordinate Development of a Comprehensive and Integrated Monitoring plan for the Exxon Valdez oil Spill (Revision 1), Progress Report 4.

A. Progress to Date June 1 through June 30, 1993

Task 1. Obtain Services of Qualified Consultant to Provide Technical Assistance in the Development of a Conceptual Design for Monitoring.

With submission on July 29th of a revised copy of the final Parametrix product entitled, **"Monitoring Recovery Following the *Exxon Valdez* Oil Spill: A Conceptual Plan,"** this task is essentially complete. A copy is enclosed for USEPA's files. As indicated in Progress Report 3 submitted June 15, 1993, the Conceptual Plan was reviewed by members of the Restoration Team, Restoration Planning Work Group, the Chief Scientist, and three members of the Peer Review Team. I believe that Parametrix appropriately considered the comments when preparing their final revision.

Task 2. Design and Conduct Workshop to Develop Conceptual Design for a Restoration Monitoring Plan

This task was essentially completed at the time the workshop was held, April 14, 1993.

B. Problems Encountered

None

C. Funds Expended to Date (June 30, 1993)

Four invoices totaling $74,186.29 have been received and authorized for payment since beginning the contract. Pursuant to the provisions of the USEPA/NOAA IAG, $45,186.29 of this total was charged to USEPA; the remainder $9,000 was charged to NOAA.

D. Anticipated Future Progress

The contract was completed June 30, 1993. What remains is a final billing and authorization of payment. A fifth and final progress report will be issued at the time final payment is authorized.

Yours very truly,

John A. Strand, Ph.D.
Restoration Manager

Enclosure

cc: Mark Brodersen (w/o enclosure)
Byron Morris (w/o enclosure)
Steven Pennoyer
Bruce Wright (w/o enclosure)
RPWG files (w/o enclosure)

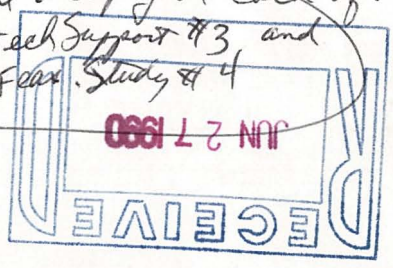
United States
Environmental Protection
Agency

Region 10
1200 Sixth Avenue
Seattle WA 98101

Alaska
Idaho
Oregon
Washington

Brian - FYI RPWS
John A G

File a copy in each of:
1990 Tech Support #3, and
1990 Fear. Study #4



JUN 21 1990

Reply to
Attn of: WD-139

MEMORANDUM

SUBJECT: Decision Memorandum - Interagency Agreement with U.S. Fish and Wildlife Service

FROM: John Armstrong
Office of Puget Sound

THROUGH: Jack Gakstatter, Chief
Office of Puget Sound

TO: Ronald A. Kreizenbeck
Acting Director, Water Division

Attached is a proposed interagency agreement (IAG) between the Environmental Protection Agency (EPA) and the U.S. Fish and Wildlife Service (USFWS) for $36,500. Under this IAG, the USFWS will complete two tasks. The first task will be to evaluate a sampling technique for determining the distribution and abundance of forage fish in relation to marine birds and marine mammals. The second task will create a database of beach segment survey data for future use in restoration projects.

The IAG is in compliance with statutory authority and EPA policy requirements.

We request your signature on the attached IAG and your concurrence below:

Concurrence:

Ronald A. Kreizenbeck
Acting Director, Water Division

Non-Concurrence:

Ronald A. Kreizenbeck
Acting Director, Water Division

Attachment

COMMITMENT NOTICE

NOTE: Preparation and approval of this form does not constitute an obligation of money. The use of this form is intended to guarantee availability of money by reserving it for certain types of specified transactions.

THIS COMMITMENT TRANSACTION IN THE AMOUNT OF $ 36,500 (WHOLE DOLLARS) IS FOR:

☐ GRANT (Number) ☐ A PURCHASE REQUISITION ☐ A CONTRACT

☒ OTHER (Specify):

DESCRIPTION OF PROJECT, GOODS, OR SERVICES
IAG To US Fish and Wildlife Service For a study of Forage fish distribution in relation to marine birds and marine mammals and for the development of a beach survey database

NAME OF GRANTEE/CONTRACTOR/VENDOR	EMPLOYER IDENT. NO. (EIN)

TASK, ROAP, OR OTHER LOCAL IDENTIFIER

SPECIAL COMMENTS OR INSTRUCTIONS

ALLOWANCE HOLDER APPROVALS (Optional, at discretion of Allowance Holder)

ALLOWANCE HOLDER TITLE: U S EPA Region 10

STAFF APPROVALS

SIGNATURE	DATE	PHONE
Jack Gakstatter, Chief, Office of Puget Sound	6/21/90	FTS 399-0966
Ron A. Kreizenbeck, Acting Director, Water Division	6/21/90	FTS 399-1237

RESPONSIBILITY CENTER TITLE: WATER DIVISION

FUNDS CERTIFICATION

PREPARED BY	APPROVED BY
SIGNATURE: Ellen Peterson	SIGNATURE: Ellen Peterson
DATE: 6-22-90	DATE: 6-22-90

FOR RESPONSIBILITY CENTER USE ONLY

Contract negotiator is ☐ is not ☐ authorized to exceed amount shown above by up to 10% without securing further approval for funds.

THE AMOUNT OF MONEY SHOWN IS:
☐ AN ORIGINAL COMMITMENT ☐ AN INCREASE TO A PREVIOUS COMMITMENT ☐ A DECREASE TO A PREVIOUS COMMITMENT

FINANCIAL DATA (See instructions on reverse before filling out) — APPROPRIATION:

FMO USE	DOCUMENT CONTROL NO.	ACCOUNT NUMBER	OBJECT CLASS	DOLLAR AMOUNT
1 2 3 4 5 6 7 8 9 10 11 12 13 14	15 16 17 18 19 20	31 32 33 34 35 36 37 38 39 40	41 42 43 44	45 46 47 48 49 50 51 52 53 54 55 56
2 0 4 0	M H 0 0 4 1	J J W U I 0 M 0 0 W	2 5 7 0	3 6 5 0 0 0 0
2 0 4 0			0 0	0 0
2 0 4 0			0 0	0 0
2 0 4 0			0 0	0 0

EPA Form 2550-9 (Rev. 4-74) PREVIOUS EDITION IS OBSOLETE

United States Environmental Protection Agency
Washington, DC 20460

EPA

Interagency Agreement/ Amendment

Part 1 - General Information

1. EPA IAG Identification Number: DW14957002-01-0
2. Other Agency IAG ID Number *(if known)*:
3. Type of Action: New
4. Funding Location by Region: 10
5. Program Office Abbreviation:

6. Name and Address of EPA Organization

Environmental Protection Agency
Water Division
1200 Sixth Avenue
Seattle, Washington 98101

7. Name and Address of Other Agency

U.S. Fish and Wildlife Service
Contracting and General Services
1011 East Tudor Road
Anchorage, Alaska 99503

8. Project Title

Distribution and Abundance of Forage Fish in Relation to Marine Birds and Marine Mammals: Pilot Project and Development of a Beach Survey Database

9. EPA Project Officer (Name, Address, Telephone Number)

Brian Ross, Project Officer
EPA Alaska Operations Office
Room 537, Federal Building
Anchorage, Alaska 99513

10. Other Agency Project Officer (Name, Address, Telephone Number)

David Irons (907) 786-3376

(same as block # 7)

11. Project Period: 6/1/90 - 9/30/91

12. Budget Period: 6/1/90 - 9/30/91

13. Scope of Work (Attach additional sheets, as needed)

Attached.

14. Statutory Authority for Both Transfer of Funds and Project Activities

Economy Act of 1932 as amended; Clean Water Act

15. Other Agency Type: Federal

Funds	Previous Amount	Amount This Action	Amended Total
16. EPA Amount		36,500	
17. EPA In-Kind Amount			
18. Other Agency Amount			
19. Other Agency In-Kind Amount			
20. Total Project Cost		36,500	

21. Fiscal Information

Program Element	FY	Appropriation	Doc. Control No.	Account Number	Object Class	Obligation/Deobligation Amt.
JWUB2D		689/0108	MH0041	JJWU10M00W	25.71	36,500

Part II - Approved Budget

EPA IAG Identification Number: DW14957002-01-0

22. Budget Categories	Itemization of This Action	Itemization of Total Project Estimated Cost to Date
(a) Personnel	$ 22,500	$ 22,500
(b) Fringe Benefits		
(c) Travel	1,000	1,000
(d) Equipment		
(e) Supplies	13,000	13,000
(f) Procurement/Assistance		
(g) Construction		
(h) Other		
(i) Total Direct Charges	$ 36,500	$ 36,500
(j) Indirect Costs: Rate % Base $		
(k) Total (EPA Share 100%) (Other Agency Share %)	$ 36,500	$ 36,500

23. Is equipment authorized to be furnished by EPA or leased, purchased, or rented with EPA funds? (Identify all equipment costing $1,000 or more) [ ] Yes [X] No

24. Are any of these funds being used on extramural agreements? (See Item 22f) [ ] Yes [X] No

Type of Extramural Agreement [ ] Grant [ ] Cooperative Agreement [ ] Procurement (Includes Small Purchase Order)

Contractor/Recipient Name (if known)	Total Extramural Amount Under This Project	Percent Funded by EPA (if known)

Part III - Funding Methods and Billing Instructions

25. [X] Funds-Out Agreement

(Note: EPA Agency Location Code (ALC) - 68010727)

[X] Disbursement Agreement

[X] Repayment — Request for repayment of actual costs must be itemized on SF 1081 or SF 1080 and submitted to the Financial Management Center, EPA, Cincinnati, OH 45268:

[ ] Monthly [X] Quarterly [ ] Upon Completion of Work

[ ] Advance — Only available for use by Federal agencies on working capital fund or with appropriate justification of need for this type of payment method. Unexpended funds at completion of work will be returned to EPA. Quarterly cost reports will be forwarded to the Financial Management Center, EPA, Cincinnati, OH 45268.

[ ] Allocation Transfer-Out — Used to transfer obligational authority or transfer of function between Federal agencies. Must receive prior approval by the Office of the Comptroller, Budget Division, Budget Formulation and Control Branch, EPA Headquarters. Forward appropriate reports to the Financial Reports and Analysis Branch, Financial Management Division, PM-226F, EPA, Washington, DC 20460.

26. [ ] Funds-In Agreement

[ ] Reimbursement Agreement — [ ] Repayment / [ ] Advance

[ ] Allocation Transfer-In

Other Agency's IAG Identification Number	EPA Program Office Allowance Holder/Responsibility Center Number

Other Agency's Billing Address *(Include Agency Location Code or Station Symbol Number)*	Other Agency's Billing Instructions and Frequency

Part IV - Acceptance Conditions

EPA IAG Identification Number: DW14957002-01-0

27. General Conditions

The other agency covenants and agrees that it will expeditiously initiate and complete the project for which funds have been awarded under this agreement.

28. Special Conditions *(Attach additional sheets if needed)*

The U.S. Fish and Wildlife Service certifies: 1) that any indirect costs incurred and included in billings to EPA represent, in accordance with GAO principles, costs that would not have been otherwise incurred by the U.S. Fish and Wildlife Service, or 2) that statutory authority exists for charging other than the incremental costs of performance. If an audit determines that any direct or indirect costs charged to EPA are unallowable, EPA will be notified immediately following the resolution of the audit and EPA will be credited for those costs.

Part V - Offer and Acceptance

Note: 1) For Funds-out actions, the agreement/amendment must be signed by the other agency official in duplicate and one original returned to the Grants Administration Division for Headquarters agreements or to the appropriate EPA Regional IAG administration office within 3 calendar weeks after receipt or within any extension of time as may be granted by EPA. The agreement/amendment must be forwarded to the address cited in Item 29 after acceptance signature.

Receipt of a written refusal or failure to return the properly executed document within the prescribed time may result in the withdrawal of the offer by EPA. Any change to the agreement/amendment by the other agency subsequent to the document being signed by the EPA Action Official, which the Action Official determines to materially alter the agreement/amendment, shall void the agreement/amendment.

2) For Funds-in actions, the other agency will initiate the action and forward two original agreements/amendments to the appropriate EPA program office for signature. The agreements/amendments will then be forwarded to the appropriate EPA IAG administration office for acceptance signature on behalf of the EPA. One original copy will be returned to the other agency after acceptance.

EPA IAG Administration Office (for administrative assistance)	EPA Program Office (for technical assistance)
29. Organization/Address Environmental Protection Agency Grants Administration Section 1200 Sixth Avenue, MD-100 Seattle, Washington 98101	30. Organization/Address Environmental Protection Agency Alaska Operations Office Room 537, Federal Building Anchorage, Alaska 99515

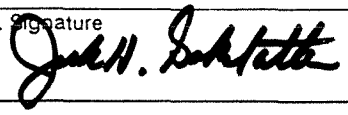
Certification

All signers certify that the statements made on this form and all attachments thereto are true, accurate, and complete. Signers acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

Decision Official on Behalf of the Environmental Protection Agency Program Office

31. Signature	Typed Name and Title	Date
	Ronald A. Kreizenbeck Acting Director, Water Division	21 JUN 90

Action Official on Behalf of the Environmental Protection Agency

32. Signature	Typed Name and Title	Date
	Jack Gakstatter, Chief Office of Puget Sound	6/21/90

Authorizing Official on Behalf of the Other Agency

33. Signature	Typed Name and Title	Date
	Paul Gertler NRDA Mgmt Team Representative	

TASK 1

RESTORATION STUDIES - PILOT PROJECT

Title

Pilot Project -- Distribution and abundance of forage fish in relation to marine birds and marine mammals in northeastern Prince William Sound.

Introduction

Many species of marine birds and marine mammals feed mainly on schooling forage fish (e.g., sandlance, capelin, and herring). Populations of some marine bird and marine mammal species in Prince William Sound have decreased during the past 18 years (Dwyer et al. 1975, Klosiewski, pers. comm.). The reasons for these declines are unknown, but may be related to food availability. If the Exxon Valdez oil spill negatively affected forage fish populations we might expect an accelerated decline of some marine bird and mammal populations. Marine bird and mammal species require appropriate habitat and food to maintain stable populations. If restoration studies repair or replace habitat damaged by oil, but sufficient food does not exist, then there will be no restoration of the target species.

Objective

I. Determine distribution and relative abundance of forage fish in relation to foraging and non-foraging marine birds and mammals.

Methods

This pilot study would be conducted in conjunction with an existing non-oil spill study being done in the northeastern portion of the Sound. Major equipment items such as boats could be shared with the ongoing study, thereby decreasing costs. The work would be concentrated in the area between Bligh Island and Glacier Island and would stress testing techniques that would be used in a fully funded study.

The objective of the study would be met using the following procedures. First, the precise area to be studied would be defined, within this area 20 to 30 random transects 1 KM in length would be chosen. These transects would be surveyed from 28 June to 15 August twice a day, every other day to determine the temporal and spatial variation of forage fish, marine birds, and marine mammals. Presence, behavior (i.e., foraging, flying, or resting), and exact location of marine birds and marine mammals would be recorded for a width of 200 meters along the

transects. Presence of fish would be recorded with a chart recording fathometer. Species of forage fish in the area would be determined by collecting birds foraging on the fish and through the use of gill nets. Birds will be collected with a shot gun using # 4 steel shot. Stomachs will be removed immediately and will be preserved in alcohol. Dates, start and end times, local weather and sea conditions will be recorded for each transect. Exact locations of transects will be determined with the use of a LORAN and nautical charts. The degree of the temporal and spatial variability found in the pilot study would help determine the appropriate sample size and timing of surveys for a large scale study.

The EPA person associated with this project is Brian Ross, OIL Spill Restoration Team, (907-271-2461). The USFWS personnel are Paul Gertler, Deputy Assistant Regional Director for Oil Spill (907-786-3579), Kent Wohl, Project Leader, Marine and Coastal Birds (907-786-3503), David Irons, Wildlife Biologist, Project Leader (907-786-3376), Mary Beth Decker, Biological Technician, Camp Leader (907-786-3443).

All data will be stored at the USFWS Anchorage office in the Migratory Birds division. David Irons (907-786-3376) may be contacted in order to retrieve the data.

Schedule: Complete report on the success of the pilot project by Sept. 30,1990

Task 2

ASSESSMENT OF BEACH SEGMENT SURVEY DATA FOR RESTORATION

INTRODUCTION/JUSTIFICATION:

There is a large collection of beach survey information obtained via the fall and spring surveys (walk-a-thon and S.A.T.). More is expected to be added when the 1990 fall survey is completed. These data are expected to complement the information obtained from ongoing studies by adding to the land and habitat database. This study will assist in further identifying restoration project sites, particularly in identification of potential acquisition of equivalent resources. Additionally, it should prove valuable in providing further information for analytical purposes in the development of the restoration planning matrix.

Subtasks:

A. Under guidance from the restoration planning workgroup and technical advisors obtain and translate to maps, pertinent beach survey information that is not currently available in hard copy.

B. Analyze possible trends in information for applicability to feasibility studies.

C. Create a data bank, via G.I.S. and d-base, for future reference use in restoration projects.

METHODS AND ANALYSES:

Research and map, using standard cartographic and G.I.S. techniques, all available information from the fall 1989, spring 1990 and fall 1990 walk-a-thon and S.A.T. surveys. Combined with other ongoing studies, this will provide further support in the selection process for specific restoration sites and habitats. It may also prove advantageous for documenting natural recovery processes that may be occurring.

SCHEDULE: Complete report on the success of the creation of the databank by Sept. 30, 1990

United States
Environmental Protection
Agency

Region 10
1200 Sixth Avenue
Seattle WA 98101

Alaska
Idaho
Oregon
Washington

Ross, AOO/A

EPA

Reply To
Attn Of: MD-100

July 5, 1990

Gary Fisher
Department of Justice
Environment and Natural Resources Division
P.O. Box 7611, Ben Franklin Station
Washington, D.C. 20044

Re: IAG: DW15957003-01-1

Dear Mr. Fisher:

Please review the enclosed interagency agreement titled "Exxon Valdez Oil Spill: Peer Review for the restoration planning efforts".

If you wish to accept the agreement, please have your authorizing official sign both copies and return one copy to Grants Administration Section, MD-100. The other copy with official signatures should be retained by your agency. Your early attention will be appreciated. The transfer of these funds from EPA cannot begin until we have received the signed agreement.

If you have questions or comments regarding the administration of this agreement, please contact Mel Rozier, of my staff, on FTS 399-2919.

Sincerely,

Oddvar K Aurdal

Oddvar K. Aurdal, Chief
Grants Administration Section

Enclosures

cc: Brian Ross, AOO/A
John Armstrong, WD-139

Brian Ross

United States Environmental Protection Agency
Washington, DC 20460

EPA

Interagency Agreement/ Amendment

Part 1 - General Information

1. EPA IAG Identification Number: DW15957003-01-0
2. Other Agency IAG ID Number *(if known)*:
3. Type of Action: New
4. Funding Location by Region: 10
5. Program Office Abbreviation:

6. Name and Address of EPA Organization

Environmental Protection Agency
Water Division
1200 Sixth Avenue
Seattle, Washington 98101

7. Name and Address of Other Agency

Department of Justice
Environment and Natural Resources Division
P.O. Box 7754
Washington, D.C. 20044

8. Project Title

Exxon Valdez Oil Spill: Peer Review for the restoration planning efforts.

9. EPA Project Officer (Name, Address, Telephone Number)

Brian Ross (907) 271-2461
Environmental Protection Agency
Alaska Operations Office
Room 537, Federal Building
Anchorage, Alaska 99513

10. Other Agency Project Officer (Name, Address, Telephone Number)

Gary Fisher FTS 514-3637
Department of Justice
Environment and Natural Resources Division
P.O. Box 7611, Ben Franklin Station
Washington, D.C. 20044

11. Project Period: 7/1/90 - 9/30/92

12. Budget Period: 7/1/90 - 9/30/91

13. Scope of Work (Attach additional sheets, as needed)

Proposed restoration feasibility studies, monitoring plans, and other associated projects need to undergo a peer review process similar to that being followed in the Natural Resources Damage Assessment process. As the Restoration Planning Work group identifies expert witnesses or peer reviewers, the Department of Justice will support the peer review process for restoration planning by contracting with these individuals. Justice will ensure that peer reviewers/expert witnesses sign any appropriate agreements, including confidentiality agreements, as necessary. Contracts between Justice and these individuals will include all associated costs, including travel to Alaska.

RECEIVED
JUL 27 1990
COMPTROLLER BRANCH

RECEIVED
AUG 1 1990
EPA-AQ00 - ANCHORAGE

14. Statutory Authority for Both Transfer of Funds and Project Activities

Economy Act of 1932, as amended (31 USC 1535), Clean Water Act

15. Other Agency Type: Federal

Funds	Previous Amount	Amount This Action	Amended Total
16. EPA Amount		20,000	
17. EPA In-Kind Amount			
18. Other Agency Amount			
19. Other Agency In-Kind Amount			
20. Total Project Cost		20,000	

21. Fiscal Information

Program Element	FY	Appropriation	Doc. Control No.	Account Number	Object Class	Obligation/Deobligation Amt.
JWUB2D	90	689/00108	MH0052	JJWU10M00W	25.79	20,000

Part II - Approved Budget

EPA IAG Identification Number: DW15957003-01-0

22. Budget Categories	Itemization of This Action	Itemization of Total Project Estimated Cost to Date
(a) Personnel	$	$
(b) Fringe Benefits		
(c) Travel		
(d) Equipment		
(e) Supplies		
(f) Procurement/Assistance	20,000	20,000
(g) Construction		
(h) Other		
(i) Total Direct Charges	$ 20,000	$ 20,000
(j) Indirect Costs: Rate % Base $		
(k) Total (EPA Share 100 %) (Other Agency Share %)	$ 20,000	$ 20,000

23. Is equipment authorized to be furnished by EPA or leased, purchased, or rented with EPA funds? (Identify all equipment costing $1,000 or more) [ ] Yes [X] No

24. Are any of these funds being used on extramural agreements? (See Item 22f) [X] Yes [ ] No

Type of Extramural Agreement [ ] Grant [ ] Cooperative Agreement [X] Procurement (Includes Small Purchase Order)

Contractor/Recipient Name (if known)	Total Extramural Amount Under This Project	Percent Funded by EPA (if known)
Walcoff and Associates	$20,000	100%

Part III - Funding Methods and Billing Instructions

25. [X] Funds-Out Agreement (Note: EPA Agency Location Code (ALC) - 68010727)

[X] Disbursement Agreement

[X] Repayment — Request for repayment of actual costs must be itemized on SF 1081 or SF 1080 and submitted to the Financial Management Center, EPA, Cincinnati, OH 45268:

[ ] Monthly [ ] Quarterly [X] Upon Completion of Work

[ ] Advance — Only available for use by Federal agencies on working capital fund or with appropriate justification of need for this type of payment method. Unexpended funds at completion of work will be returned to EPA. Quarterly cost reports will be forwarded to the Financial Management Center, EPA, Cincinnati, OH 45268.

[ ] Allocation Transfer-Out — Used to transfer obligational authority or transfer of function between Federal agencies. Must receive prior approval by the Office of the Comptroller, Budget Division, Budget Formulation and Control Branch, EPA Headquarters. Forward appropriate reports to the Financial Reports and Analysis Branch, Financial Management Division, PM-226F, EPA, Washington, DC 20460.

26. [ ] Funds-In Agreement

[ ] Reimbursement Agreement — [ ] Repayment / [ ] Advance

[ ] Allocation Transfer-In

Other Agency's IAG Identification Number	EPA Program Office Allowance Holder/Responsibility Center Number
Other Agency's Billing Address *(Include Agency Location Code or Station Symbol Number)*	Other Agency's Billing Instructions and Frequency

Part IV - Acceptance Conditions

EPA IAG Identification Number: DW15957003-01-0

27. General Conditions

The other agency covenants and agrees that it will expeditiously initiate and complete the project for which funds have been awarded under this agreement.

28. Special Conditions *(Attach additional sheets if needed)*

Part V - Offer and Acceptance

Note: 1) For Funds-out actions, the agreement/amendment must be signed by the other agency official in duplicate and one original returned to the Grants Administration Division for Headquarters agreements or to the appropriate EPA Regional IAG administration office within 3 calendar weeks after receipt or within any extension of time as may be granted by EPA. The agreement/amendment must be forwarded to the address cited in Item 29 after acceptance signature.

Receipt of a written refusal or failure to return the properly executed document within the prescribed time may result in the withdrawal of the offer by EPA. Any change to the agreement/amendment by the other agency subsequent to the document being signed by the EPA Action Official, which the Action Official determines to materially alter the agreement/amendment, shall void the agreement/amendment.

2) For Funds-in actions, the other agency will initiate the action and forward two original agreements/amendments to the appropriate EPA program office for signature. The agreements/amendments will then be forwarded to the appropriate EPA IAG administration office for acceptance signature on behalf of the EPA. One original copy will be returned to the other agency after acceptance.

EPA IAG Administration Office (for administrative assistance)	EPA Program Office (for technical assistance)
29. Organization/Address Environmental Protection Agency Grants Administration Section, MD-100 1200 Sixth Avenue Seattle, Washington 98101	30. Organization/Address Environmental Protection Agency Alaska Operations Office Room 537, Federal Building Anchorage, Alaska 99515

Certification

All signers certify that the statements made on this form and all attachments thereto are true, accurate, and complete. Signers acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

Decision Official on Behalf of the Environmental Protection Agency Program Office

31. Signature	Typed Name and Title	Date
[signature]	Ronald A. Kreizenbeck Acting Director, Water Division	7/3/90

Action Official on Behalf of the Environmental Protection Agency

32. Signature	Typed Name and Title	Date
John Armstrong For	Jack Gakstatter, Chief Office of Puget Sound	3 JUL 90

Authorizing Official on Behalf of the Other Agency

33. Signature	Typed Name and Title	Date
Theresa Labelle for	Bob Bruffy Chief, Financial Management	7/24/90

United States
Environmental Protection
Agency

Region 10
1200 Sixth Avenue
Seattle WA 98101

Alaska
Idaho
Oregon
Washington

EPA

JUL 0 3 1990

Reply to
Attn of: WD-139

MEMORANDUM

SUBJECT: Decision Memorandum - Interagency Agreement with U.S. Department of Justice

FROM: John Armstrong
Office of Puget Sound

THROUGH: Jack Gakstatter, Chief
Office of Puget Sound

TO: Ronald A. Kreizenbeck
Acting Director, Water Division

Attached is a proposed interagency agreement (IAG) between the Environmental Protection Agency (EPA) and the U.S. Department of Justice (DOJ) for $20,000. Under this IAG, the DOJ will provide scientific peer reviewers for the Exxon Valdez oil-spill restoration planning effort.

The IAG is in compliance with statutory authority and EPA policy requirements.

We request your signature on the attached IAG and your concurrence below:

Concurrence:

Ronald A. Kreizenbeck
Acting Director, Water Division

Non-Concurrence:

Ronald A. Kreizenbeck
Acting Director, Water Division

Attachment

COMMITMENT NOTICE

NOTE: Preparation and approval of this form does not constitute an obligation of money. The use of this form is intended to guarantee availability of money by reserving it for certain types of specified transactions.

THIS COMMITMENT TRANSACTION IN THE AMOUNT OF $ 20,000 (WHOLE DOLLARS) IS FOR:

☐ GRANT (Number) ☐ A PURCHASE REQUISITION ☐ A CONTRACT

☒ OTHER (Specify):

DESCRIPTION OF PROJECT, GOODS, OR SERVICES
Provide scientific peer review For the Exxon Valdez oil-spill restoration planning effort

NAME OF GRANTEE/CONTRACTOR/VENDOR	EMPLOYER IDENT. NO. (EIN)

TASK, ROAP, OR OTHER LOCAL IDENTIFIER

SPECIAL COMMENTS OR INSTRUCTIONS

ALLOWANCE HOLDER APPROVALS *(Optional, at discretion of Allowance Holder)*

ALLOWANCE HOLDER TITLE
US EPA, Region 10

STAFF APPROVALS

SIGNATURE	DATE	PHONE
Jack Gakstatter for John Armstrong Chief, Office of Puget Sound	3 JUL 90	FTS 399-0966
Ron A Kreizenbeck Acting Director, Water Division	July 3, 1990	FTS 399-1237

RESPONSIBILITY CENTER TITLE Ellen Patterson Water Division

FUNDS CERTIFICATION

PREPARED BY	APPROVED BY
SIGNATURE	SIGNATURE
DATE	DATE

FOR RESPONSIBILITY CENTER USE ONLY

Contract negotiator is ☐ is not ☐ authorized to exceed amount shown above by up to 10% without securing further approval for funds.

THE AMOUNT OF MONEY SHOWN IS:
☐ AN ORIGINAL COMMITMENT ☐ AN INCREASE TO A PREVIOUS COMMITMENT ☐ A DECREASE TO A PREVIOUS COMMITMENT

FINANCIAL DATA *(See instructions on reverse before filling out)* — APPROPRIATION:

FMO USE	DOCUMENT CONTROL NO.	ACCOUNT NUMBER	OBJECT CLASS	DOLLAR AMOUNT
1 2 3 4 5 6 7 8 9 10 11 12 13 14	15 16 17 18 19 20	31 32 33 34 35 36 37 38 39 40	41 42 43 44	45 46 47 48 49 50 51 52 53 54 55 56
2 0 4 0	M H 0 0 5 2	J J W U I O M 0 0 W	2 5 30 50	2 0 0 0 0 0 0
2 0 4 0			0 0	0 0
2 0 4 0			0 0	0 0
2 0 4 0			0 0	0 0

EPA Form 2550-9 (Rev. 4-74) PREVIOUS EDITION IS OBSOLETE

Ross AOO/Anchorage

United States Environmental Protection Agency
Washington, DC 20460

EPA

Interagency Agreement/ Amendment

Part 1 - General Information

1. EPA IAG Identification Number: DW12957001-01-0

2. Other Agency IAG ID Number *(if known)*: 90024

3. Type of Action: New

4. Funding Location by Region: 10

5. Program Office Abbreviation

6. Name and Address of EPA Organization

Environmental Protection Agency
Water Division
1200 Sixth Avenue
Seattle, Washington 98101

7. Name and Address of Other Agency

U.S. Department of Agriculture
U.S. Forest Service
P.O. Box 21628
Juneau, Alaska 99802-1628

8. Project Title

Restoration of Fucus Communities in Prince William Sound, Alaska

9. EPA Project Officer (Name, Address, Telephone Number)

Brian Ross, Project Officer
EPA Alaska Operations Office
Room 537, Federal Building
Anchorage, Alaska 99513

10. Other Agency Project Officer (Name, Address, Telephone Number)

Dave Gibbons FTS 871-7918
(same as block # 7)

11. Project Period: 6/1/90 - 5/30/91

12. Budget Period: 6/1/90 - 5/30/91

13. Scope of Work (Attach additional sheets, as needed)

Attached.

RECEIVED
JUL 18 1990
COMPTROLLER BRANCH

14. Statutory Authority for Both Transfer of Funds and Project Activities

Economy Act of 1932 as amended; Clean Water Act

15. Other Agency Type: Federal

Funds	Previous Amount	Amount This Action	Amended Total
16. EPA Amount		80,000	
17. EPA In-Kind Amount			
18. Other Agency Amount			
19. Other Agency In-Kind Amount			
20. Total Project Cost		80,000	

21. Fiscal Information

Program Element	FY	Appropriation	Doc. Control No.	Account Number	Object Class	Obligation/Deobligation Amt.
JW4B2D	89	689/~~0108~~ 00108	MH0036	JJWU10M00W	2571	80,000

Part II - Approved Budget

EPA IAG Identification Number: DW129570001-01-0

22. Budget Categories	Itemization of This Action	Itemization of Total Project Estimated Cost to Date
(a) Personnel	$	$
(b) Fringe Benefits		
(c) Travel	1,000	1,000
(d) Equipment		
(e) Supplies	1,000	1,000
(f) Procurement/Assistance	75,000	75,000
(g) Construction		
(h) Other	3,000	3,000
(i) Total Direct Charges	$ 78,000	$ 78,000
(j) Indirect Costs: Rate % Base $		
(k) Total (EPA Share 100 %) (Other Agency Share %)	$ 80,000	$ 80,000

23. Is equipment authorized to be furnished by EPA or leased, purchased, or rented with EPA funds? (Identify all equipment costing $1,000 or more) [ ] Yes [X] No

24. Are any of these funds being used on extramural agreements? (See Item 22) [X] Yes [ ] No

Type of Extramural Agreement [ ] Grant [ ] Cooperative Agreement [X] Procurement (Includes Small Purchase Order)

Contractor/Recipient Name (if known)	Total Extramural Amount Under This Project	Percent Funded by EPA (if known)
University of Alaska Fairbanks, Alaska	approx. $5,570,000	less than 3%

Part III - Funding Methods and Billing Instructions

25. [X] Funds-Out Agreement (Note: EPA Agency Location Code (ALC) - 68010727)

[X] Disbursement Agreement

[X] Repayment — Request for repayment of actual costs must be itemized on SF 1081 or SF 1080 and submitted to the Financial Management Center, EPA, Cincinnati, OH 45268:

[ ] Monthly [X] Quarterly [ ] Upon Completion of Work

[ ] Advance — Only available for use by Federal agencies on working capital fund or with appropriate justification of need for this type of payment method. Unexpended funds at completion of work will be returned to EPA. Quarterly cost reports will be forwarded to the Financial Management Center, EPA, Cincinnati, OH 45268.

[ ] Allocation Transfer-Out — Used to transfer obligational authority or transfer of function between Federal agencies. Must receive prior approval by the Office of the Comptroller, Budget Division, Budget Formulation and Control Branch, EPA Headquarters. Forward appropriate reports to the Financial Reports and Analysis Branch, Financial Management Division, PM-226F, EPA, Washington, DC 20460.

26. [ ] Funds-In Agreement

[ ] Reimbursement Agreement — [ ] Repayment / [ ] Advance

[ ] Allocation Transfer-In

Other Agency's IAG Identification Number	EPA Program Office Allowance Holder/Responsibility Center Number
90024	
Other Agency's Billing Address (Include Agency Location Code or Station Symbol Number)	Other Agency's Billing Instructions and Frequency

Part IV - Acceptance Conditions

EPA IAG Identification Number: DW12957001-01-0

27. General Conditions

The other agency covenants and agrees that it will expeditiously initiate and complete the project for which funds have been awarded under this agreement.

28. Special Conditions *(Attach additional sheets if needed)*

Indirect Costs are not allowable under this agreement.

If an audit determines that any costs charged to EPA are unallowable, EPA will be notified immediately following the resolution of the audit and EPA will be credited for those costs.

Part V - Offer and Acceptance

Note: 1) For Funds-out actions, the agreement/amendment must be signed by the other agency official in duplicate and one original returned to the Grants Administration Division for Headquarters agreements or to the appropriate EPA Regional IAG administration office within 3 calendar weeks after receipt or within any extension of time as may be granted by EPA. The agreement/amendment must be forwarded to the address cited in Item 29 after acceptance signature.

Receipt of a written refusal or failure to return the properly executed document within the prescribed time may result in the withdrawal of the offer by EPA. Any change to the agreement/amendment by the other agency subsequent to the document being signed by the EPA Action Official, which the Action Official determines to materially alter the agreement/amendment, shall void the agreement/amendment.

2) For Funds-in actions, the other agency will initiate the action and forward two original agreements/amendments to the appropriate EPA program office for signature. The agreements/amendments will then be forwarded to the appropriate EPA IAG administration office for acceptance signature on behalf of the EPA. One original copy will be returned to the other agency after acceptance.

EPA IAG Administration Office (for administrative assistance)	EPA Program Office (for technical assistance)
29. Organization/Address Environmental Protection Agency Grants Administration Section 1200 Sixth Avenue, MD-100 Seattle, Washington 98101	30. Organization/Address Environmental Protection Agency Alaska Operations Office Room 537, Federal Building Anchorage, Alaska 99515

Certification

All signers certify that the statements made on this form and all attachments thereto are true, accurate, and complete. Signers acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

Decision Official on Behalf of the Environmental Protection Agency Program Office

31. Signature	Typed Name and Title	Date
[signature]	Ronald A. Kreizenbeck Acting Director, Water Division	6/18/90

Action Official on Behalf of the Environmental Protection Agency

32. Signature	Typed Name and Title	Date
John Armstrong For	Jack Gakstatter, Chief Office of Puget Sound	15 JUN 90

Authorizing Official on Behalf of the Other Agency

33. Signature	Typed Name and Title	Date
Michael A Barton	Michael A. Barton Reginal Forester	7/5/90

United States
Environmental Protection
Agency

Region 10
1200 Sixth Avenue
Seattle WA 98101

Alaska
Idaho
Oregon
Washington

EPA

JUN 15 1990

Reply to
Attn of: WD-139

MEMORANDUM

SUBJECT: Decision Memorandum - Interagency Agreement with U.S. Forest Service

FROM: John Armstrong *John Armstrong*
Office of Puget Sound

Through: Jack Gakstatter, Chief *For John Armstrong*
Office of Puget Sound

TO: Ron Kreizenbeck
Acting Director, Water Division

Attached is a proposed interagency agreement (IAG) between the Environmental Protection Agency (EPA) and the U.S. Forest Service (USFS) for $80,000. Under this IAG, the USFS will address the natural recovery following oiling of wetland plants (Fucus) in selected sites in Prince William Sound, Alaska, and will explore methods of enhancing restoration of these plant communities. This IAG will supplement the on-going USFS Damage Assessment work in Prince William Sound.

The IAG is in compliance with statutory authority and EPA policy requirements.

We request your signature on the attached IAG and your concurrence below:

Concurrence:

Ronald A. Kreizenbeck
Acting Director, Water Division

Non-Concurrence:

Ronald A. Kreizenbeck
Acting Director, Water Division

Attachment

COMMITMENT NOTICE

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THIS COMMITMENT TRANSACTION IN THE AMOUNT OF $ 80,000 (WHOLE DOLLARS) IS FOR:

☐ GRANT (Number) ☐ A PURCHASE REQUISITION ☐ A CONTRACT

☒ OTHER (Specify):

DESCRIPTION OF PROJECT, GOODS, OR SERVICES
IAG to US Forest Service for exploring ways to restore wetland plants (Fucus) in Prince William Sound, Alaska

NAME OF GRANTEE/CONTRACTOR/VENDOR	EMPLOYER IDENT. NO. (EIN)

TASK, ROAP, OR OTHER LOCAL IDENTIFIER

SPECIAL COMMENTS OR INSTRUCTIONS

ALLOWANCE HOLDER APPROVALS *(Optional, at discretion of Allowance Holder)*

ALLOWANCE HOLDER TITLE
US EPA, Region 10

STAFF APPROVALS

SIGNATURE	DATE	PHONE
Jack Gakstatter For John Armstrong Chief, Office of Puget Sound	15 JUN 90	FTS 399-0966
Ron A Kreizenbeck Acting Director, Water Division	6-19-90	FTS 399-1237

RESPONSIBILITY CENTER TITLE Ellen Peterson, Water Div. 6-18-90

FUNDS CERTIFICATION

PREPARED BY	APPROVED BY
SIGNATURE	SIGNATURE
DATE	DATE

FOR RESPONSIBILITY CENTER USE ONLY

Contract negotiator is ☐ is not ☐ authorized to exceed amount shown above by up to 10% without securing further approval for funds.

THE AMOUNT OF MONEY SHOWN IS:
☐ AN ORIGINAL COMMITMENT ☐ AN INCREASE TO A PREVIOUS COMMITMENT ☐ A DECREASE TO A PREVIOUS COMMITMENT

FINANCIAL DATA *(See instructions on reverse before filling out)* APPROPRIATION: 689/0102

FMO USE														DOCUMENT CONTROL NO.						ACCOUNT NUMBER										OBJECT CLASS				DOLLAR AMOUNT											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
2									0	4	0			M	H	0	0	3	6	J	T	W	U	1	0	M	0	0	W	2	5	7	1						8	0	0	0	0	0	0
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June 15, 1990

FUCUS RESEARCH PLAN

I. INTRODUCTION

The intertidal zones of Prince William Sound support the growth of macrophytes that form the base of an important ecological system. The brown algal macrophyte Fucus is an important primary producer that remains productive for most of the year. This alga is an important food item for several types of marine invertebrates such as snails, limpets, and sea urchins. Equally important, the habitat structure provided by the Fucus beds is critical to successful reproduction of herring. During the spawning season, herring deposit roe on the blades of Fucus , where it remains until hatching. The herring fry find protective cover and planktonic food within the Fucus community.

Oil spilled in the Sound from the Exxon Valdez in March 1989 drifted onto the intertidal zones in many locations. The oil coated the Fucus plants as well as rock surfaces resulting in direct physical and toxicological impacts on the plants. Clean up efforts, used to remove the oil from the intertidal zones in some cases resulted in additional damage to these macrophyte communities. Two of the most damaging clean up procedures to Fucus were the hot water washes and the direct harvesting/removal of heavily oiled Fucus.

Ultimately, the recovery of the ecological systems in the Sound is dependent in part on the re-establishment of the critical primary producers. High valued resources of the system such as the herring fishery are dependent on the primary production and structural habitat of Fucus. This research proposal addresses the natural recovery of Fucus occurring in selected sites in the Sound and explores methods of enhancing restoration of these macrophyte beds.

II. OBJECTIVES

This research proposal has two basic objectives listed below.

1) To determine the feasibility of increasing the ability of Fucus to become reestablished in damaged areas of Prince William Sound by changing the texture of rock surfaces.

2) To document the extent and magnitude of natural recruitment of Fucus in areas subjected to alternative cleaning technologies.

Objective 1 explores methods that show promise of being used to restore Fucus in large and inaccessible areas such as those found throughout much of the Sound. Objective 2 is critical to

the experimental design since the information obtained in this portion of the research is needed to assess the success of restoration techniques.

III. RATIONALE

Qualitative evidence indicates that Fucus was damaged by both the oil itself and the clean up effort. This is an important perennial plant that is a critical structural component of the intertidal habitat in Prince William Sound and serves as an important spawning habitat for herring. Reestablishment of this macrophyte species will increase the rate of recovery of other associated biotic communities.

The reproductive and life history of the plant is well known. Effective techniques for collection of gametes and production of zygotes and embryos are well established. The specific life cycle of Fucus in Prince William Sound is unknown, but it is expected that plants will be fertile for at least most of the spring and summer.

IV. APPROACH

A. OVERVIEW

The study will compare the effectiveness of using both dispersed Fucus propagules and transplanting adults in habitats that experienced varying degrees of oiling and cleaning. In addition the study will determine the effect of substrate (smoothness and slope) on the ability of the plants to establish themselves.

It is anticipated that the clean up procedures utilized may affect the success of restoring Fucus habitats. The slope of the rock appears to be critical to reestablishment of Fucus in the upper intertidal area. Specific plots will be set out to determine the effect of slope on recolonization. Studies will be conducted in each of the "habitats" listed below:

1) Oiled/not cleaned;
2) Oiled/cleaned;
3) Not oiled/not cleaned (Control)

In "habitat" 3 above, artificial clearing of the rocks in each 4 meter x 4 meter plot described below, will occur to eliminate competition from adult plants and create substrate equivalent to the other "habitats". The experimental design will be to use three replicates of each habitat type and at each site three replicates of each procedure including three replicates of controls to measure natural settlement. On at least 2 different slopes of rocks, in each habitat type, two different methods of "roughing up the surface will be tried. First the use of portable gas powered "jack hammer" will be used to chip grooves the surface. Second, artificial barnacle shells will be glued to the test plots. The purpose of each of these treatments will be to determine if the

rougher surface will increase the ability of Fucus to attach to the rock surface.

In addition to determining if "natural" recruitment is enhanced by roughing the surface of rocks both the use of propagules and transplanted adult plants will be placed on the plots to assure that viable embryos reach the plots. Live adult plants will be transplanted by wedging boulders into crevices in the rocks and or using plastic glue to glue them into place. Propagules will be spread on the test plot on a receding tide. The purpose of these procedures is to assure that embryos reach the test plots. If neither of these techniques prove feasible embryos will be collected from adults by exposing them to fresh water shock. The embryos will then be poured from a bucket onto the test plots 1 hour before the tide re floods the area.

The endpoints (variables) to be measured will be:

a) height of the plants;
b) number of plants; and
c) percentage cover;

B. FIELD STUDIES

1. Site Selection

Maps prepared by the Damage Assessment Geoprocessing Group of the Exxon Valdez Oil Spill Project will be used to identify potential study sites. The existing classification scheme for classes of oiling will be used. Primary sites will be in or near the Herring Bay area. Potential sites will be examined by direct observation to verify whether the designated classification of oiling are accurate. Only three categories can be verified:

"No oiling" --verified by direct observations, that confirm no oil residue and no record from last summer of oiling.

"Oiling/no clean up treatment" --verified by direct observations of oil residues and records from Alaska DNR and Exxon.

"Oiling/clean-up" --verified by direct observation of either oil residues and documented clean up activity or remnants of damaged plants such as holdfasts and stipes. Further verification will be done to show that both Alaska DNR records and Exxon records concur in the treatment. Two types of treatment will be studied, hot water wash and bioremediation.

Because of the transient features of the oil contamination observed during the past year, no effort will be made to corroborate designations of degrees of oiling [namely heavy, moderate, or light].

Final selection of sites will be based on the following

criteria:

1) Verification of the category of oiling to the extent possible as described above;
2) Qualitative representativeness of the site judged by generalized features of exposure to wave action, substrate, and evidence of current or prior presence of Fucus.
3) Accessibility.

Photographic records will made of each potential site. This will serve as additional documentation of the site characteristics in support of narrative descriptions. Polaroid positive/negative film will be used in order to verify that the intended documentation has been captured on film. Site identification code numbers [see later section], date of photo, name of field crew chief, and other brief identifying information will be printed using waterproof ink, on the back of the positive print. The positive print and the negative will be stored in separate, water-proof bags.

2. Sample Plot Siting/Selection

For each site selected, the elevational extent and linear extent [length parallel to the waterline] of the Fucus zone will be measured with a meter tape to a precision of one meter. The boundaries of the Fucus beds will be identified based on the distribution of the plants. Qualitative, professional judgement will be used to define the extent of the Fucus, but in general the upper and lower boundaries are identified by a drop in plant density to zero plants per square meter over a distance of one meter; linear boundaries extending parallel to the beach are defined by changes in substrate [eg. rock to cobble] and a decline in plant density to zero plants per square meter for a distance of several meters. A 48 m transect will be located through the upper elevational level of the Fucus beds parallel to the water line. The transect will be positioned randomly within the linear extent of the Fucus bed.

For those sites that do not have Fucus currently established, the expected zone will be estimated from comparisons of sites that have Fucus. Tidal flux will not be known for each site, however, approximate high and low tide measurements and relative position of the Fucus beds will be sufficient to locate sites for this study. Tidal elevations will be determined using a level, a rod and tide tables. The elevation of the Fucus plots will be determined relative to the tide at a selected time within the tide cycle. By determining the time, the relationship between the height of the water and the known mean higher high water elevation and then relating the elevation difference between the height of the water and the height of the plots, the relationship between the plots and mean higher high water can be determined.

Plots 4 meters x 4 meters will be established along the

transects. In the center of these 4x4 meter plots 2 meter by 2 meter study plots will be established. This is done to assure at least a 2 meter separation between treatments. Placement of the treatments along the transect will be done using stratified random techniques.

Once the plots have been established, a photographic record will be made that incorporates two levels of resolution: One coarse resolution shot that shows the 4m x 4m plot; one medium resolution shot that shows the interior 2m x 2m portion of the plot. Photographic documentation will be as described above.

3. Sampling Scheme

Each 2 meter x 2 meter plot will be divided into 16 1/4 meter square quadrats. For all treatments and controls each of the endpoints described below will be measured in three randomly selected quadrats in each of 3 2 meter x 2 meter plots on each sampling date.

The following endpoints will be determined on each of three sampling dates (see schedule below). Numbers of plants will be determined by counting all Fucus plants within the quadrat. Percent cover will be determined using the point quadrat technique (Greig-Smith 1983). Height of plants will be determined to the nearest .5 cm on ten randomly selected plants. (1/4 square meter quadrats with numbers every cm on two sides will be constructed. For each quadrat 10 pairs of randomly selected numbers will be recorded. The plant closest to the center of these coordinates will be selected for height measurements.)

Schedule:

Site Selection.....	May 29-Jun 8
Site Preparation:	Jun 11-Jun 29
Field Sampling and transplant T-1.....	Jul 1-Jul 13
Field Sampling: T-2.....	Aug 15-Aug 22
Field Sampling: T-3.....	Sep 20-Sep 25

V. QUALITY ASSURANCE/QUALITY CONTROL

A. FIELD SAMPLING

1. TRAINING

Field personnel will be trained by the senior scientist. Training plots will be established on location in Herring Bay, Prince William Sound. Methods will be those detailed in Greig-Smith (1983). After instructing all technicians on observational techniques the senior scientist will sample five of the training plots. Each field technician will sample the same five plots. For all endpoints if there is no significant difference between the individual technician and the senior scientist adequate

training has been received. If significant differences are noted the senior scientist will evaluate the situation, resolve the probable source of error and repeat the sampling tests.

2. DATA RECORDING

All data will be recorded in dedicated notebooks in ink. Entries will be dated and signed by the individual making the entry. At each visit of either co-PI, they will have the responsibility of reviewing the data entries and initial the notebooks as verification of the materials since the previous date of verification. Any changes, additions or corrections of entries are to be made so as not to obscure the prior entries. Deletions are to be marked will a single line through the entry. All changes are to be initialed.

Field notes and data sheets will be made on waterproof paper with pencil. All such field entries will be transcribed into dedicated notebooks as soon as practical but within three days of returning to the research base station [barge]. Original field notes will be retained as backups to support any audit that might occur.

3. CODE SYSTEM DATA

After sites have been selected, each site will have an unambiguous three letter designation (eg., HRB=Herring Bay, LHB=Lower Herring Bay, etc.). Transects at each site will be identified by a two digit code (eg. 01, 02, etc.). Similarly, two-digit numerical codes will be assigned for each Plot within a transect and each quadrate within a plot. This is illustrated by the following example:

Site	Transect	Plot	Quadrate
HRB	04	01	23

The master list of codes will be recorded in the front of each field notebook, and in the laboratory notebooks on the barge in Prince William Sound.

Most of the work that is described above has not been tried before and consequently there are no established Standard Operating Procedures. The intent of this study is to develop SOP's that can be used if it becomes necessary to reestablish Fucus in Prince William Sound or elsewhere following an oil spill.

4. Data Archives

A copy of data books and all field notes will be sent to both the EPA Project Officer and the USFS Project Officer. Copies of any non litigation sensitive data may be obtained from either Project Officer or from the Principle investigator.

B. PRODUCTS

1. Draft Report on First Year Results of Field Experiments on Fucus reestablishment. Due November 1990.

2. Final Report on First Year Results of Field Experiments on Fucus reestablishment. Due Januay 1991.

VI. PERSONNEL

Co-Principle Investigator Mike Stekoll University of Alaska - Juneau

Co-Principle Investigator Mike Foster California State Univ.- Moss Landing

Technician To Be Determined

Brian Ross of EPA's Restoration Planning Office Anchorage, Alaska will serve as the EPA project Officer. His duties will be as outlined in the EPA Project Offiecer Handbook. After discussion with the USFS project Officer Brian has the authority to approve technical changes in the scope of work as necessary to meet the field situation. (See attached IAG for address and Phone)

USFS Project Officer Dave Gibbons, USFS Juneau, Alaska (See attached IAG for address and Phone)

VII. LITERATURE

Charters, A. et.al. 1972 Effects of Water motion on Algal Spore Attachment. Proceedings International Seaweed Symposium. 7:243-247

Greg-Smith, P. 1983. Quantitative Plant Ecology. Third Edition University of California Press, Berkeley. 359 pp.

Kapustka, L. 1989 Ecological Assessment of Hazardous Waste Sites in Field Guide to Ecological Assessments of Hazardous Waste Sites, Parkhurst, B. et al eds. EPA 89/0000000

Pollock, E. 1970 Fertilization in Fucus. Planta 92:85-99

Scagel, R. et. al. 1989. A Synopsis of the Benthic Marine Algae of British Columbia, Southeast Alaska, Washington and Oregon. Phycological Contribution #3, Dept. of Botany, University of British Columbia, Vanc. 532 p.

Sharman, L. Growth Rate of Fucus distichus along an Environmental Gradient in a Tidewater Glacial Fjord. Marine Science and Limnology, Univ of Alaska, Fairbanks, Alaska, 99775-1080.

Stekoll, M. 1990. Personal Communication

Topinka, J. et.al. 1979 Long Term Oil Contamination of Fucoid Macroalgae following the Amoco Cadiz Oil Spill. Fate and Effects of the Oil Spill. Proceedings of the International Symposium. Centre Oceanlogique de Bretagne, Brest France November 19-22 pp 393-403

Vadas, R. et.al 1990. Recruitment of Ascophyllum nodosum: Wave Action as a Source of Mortality. Marine Ecology Progress Series. 61:263-272.

*** SAMPLE ***

DATE OF SAMPLING: _____ SAMPLING CREW: _____, _____

DATE TRANSCRIBED TO DEDICATED NOTEBOOK: _____

TRANSCRIBED BY _____ TO PAGE _____ IN DEDICATED NOTEBOOK

[SEPARATE DATA SHEET FOR EACH PLOT]

FIELD DATA SHEETS--*Fucus* RESTORATION STUDY

	SITE #	PLOT #	QUADRATE #	NO. PLANTS	%COVER
1	_____	_____	_____	_____	_____
2	_____	_____	_____	_____	_____
3	_____	_____	_____	_____	_____

HEIGHT

PLANT #	QUADRATE 1 # _____	QUADRATE 2 # _____	QUADRATE 3 # _____
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
5	_____	_____	_____
6	_____	_____	_____
7	_____	_____	_____
8	_____	_____	_____
9	_____	_____	_____
10	_____	_____	_____

COMMENTS:

RPUG G

United States Environmental Protection Agency
Washington, DC 20460

Project Officer's Interagency Agreement Invoice Approval

Instructions

12/10/90

1. Complete and return to the Servicing Finance Office indicated below.
2. Return the original copy; retain the duplicate copy for your files.
3. Send either a completed form or an explanation for disapproval within five calendar days of receipt of invoice to assure responsive payment processing to the other agency. If you cannot approve payment, or if you approve partial payment, return invoice with a memorandum of explanation.
4. Dollar amounts distributed by account number must equal total amount to be paid.

Part 1. Identification

Servicing Finance Office	Agency
EPA Accounting Operations Office MS~~213~~ Third Cincinnati, OH 45268 FTS 294-2056	DEPT. OF JUSTICE
	IAG Number: EPA IAG DW15 95 7003
	Invoice Number: OPAC #04805098
Type of Bill [ ] 1. 1080 [ ] 2. 1081 [X] 3. OPAC [ ] 4. SIBAC	Date: 11/30/90 — Invoice Amount: $20,000.00 Site *(if necessary)*

Part 2. Account Charges Instructions

Task	Account Number(s)	Dollar Amount
		.
		.
		.
		.
Total Amount To Be Paid	[ ] As Invoiced [ ] Partial Payment	$.

Incomplete or Inaccurate Data on This Form Will Delay Payment of the Invoice

Part 3. Approval for Payment

I have determined that the above-cited IAG has commenced and the payment requested is commensurate with the Agency's level of progress on the IAG:

[ ] Goods or services have been delivered in full as requested by the IAG to support this payment.

[X] Sufficient progress has been made by the other agency to support this progress payment as authorized by the IAG.

Payment Document Requires Immediate Action

Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

Project Officer's Signature: Brian Ross

BRIAN ROSS
EPA ALASKA OPER.
RM. 537, FED. BLDG
ANCHORAGE, ALASKA 99513

Date: 12-17-90

Telephone Number: (907) 271-2461
FTS: 868-2461

EPA Form 2550-21 (11-88)

ALIGN PAPER, RETURN CARRIAGE.....

RWG
6

BILLS CHARGED TO YOUR ALC: 68-01-0030

Billing Agency	Billing ALC	D.O. Symbol	Agency Contact
U.S. DEPARTMENT OF JUSTICE	15-01-0004	X0048	(202) 501-6760

Acctg. Date	Accom. Date	D.O. Symbol	Document Ref. No.	Dollar Amount
11/30/90	11/30/90	X0048	04805098	20,000.00

Description:
1R00171 0B15(0031) JOEREATHA GAMBLE 202-501-7464 OR FTS 241-7464
THE REIMBURSEMENT ABOVE IS REQUESTED FOR IAG # DW15957003-01-0
ALL QUESTIONS SHOULD BE DIRECTED TO J. GAMBLE AND REF. 1R00171

TOTAL FROM 15-01-0004 = 20,000.00

ISSUING STATION

AP20

Washington D.C.

ENVIRONMENTAL PROTECTION AGENCY
FINANCIAL MANAGEMENT DIVISION
Financial Reports and Analysis Branch
Washington, D.C. 20460

RECEIVING STATION

AP27

Cincinnati, Ohio 45268

TRANSFER VOUCHER NO.
1-20-27-14

DATE ISSUED
12/5/90

RECORD DURING MONTH OF
December

DETAILS OF TRANSFER
To transfer OPAC bill Document attached

APPROPRIATION SYMBOL (Follow with allotment and obligation detail if necessary)	ISSUING OFFICE-SFO CODE					RECEIVING OFFICE-SFO CODE				
	√	DEBIT ACCT NO.	CREDIT ACCT NO.	√	AMOUNT	√	DEBIT ACCT NO.	CREDIT ACCT NO.	√	AMOUNT
68X0108		3720	1012		20,000.00					

01 P MH0052 DW15 95 7003 JJWU10M00W 2579 20,000.00 (LINE 001)

RECEIVED DEC 10 '90 ... ACCOUNTING OFFICE

SIGNATURE OF ISSUING OFFICE: Thomas C. Hammond

TITLE: Supervisor, Report Analysis Section

EPA Form 2550-4 (Rev. 12-79)

PREVIOUS EDITION MAY BE USED.

REPLACES PHS 1436.

INTER-OFFICE TRANSFER VOUCHER

U.S. GOVERNMENT PRINTING OFFICE 1984- 454-448/7500

Ross, AOO/A RPwb G

United States Environmental Protection Agency
Washington, DC 20460

EPA

Interagency Agreement/ Amendment

Part 1 - General Information

1. EPA IAG Identification Number	4. Funding Location by Region
DW14957002-01-0	10
2. Other Agency IAG ID Number *(if known)*	5. Program Office Abbreviation
3. Type of Action: New	

6. Name and Address of EPA Organization	7. Name and Address of Other Agency
Environmental Protection Agency Water Division 1200 Sixth Avenue Seattle, Washington 98101	U.S. Fish and Wildlife Service Contracting and General Services 1011 East Tudor Road Anchorage, Alaska 99503

8. Project Title

Distribution and Abundance of Forage Fish in Relation to Marine Birds and Marine Mammals: Pilot Project and Development of a Beach Survey Database

9. EPA Project Officer (Name, Address, Telephone Number)	10. Other Agency Project Officer (Name, Address, Telephone Number)
Brian Ross, Project Officer EPA Alaska Operations Office Room 537, Federal Building Anchorage, Alaska 99513	David Irons (907) 786-3376 (same as block # 7)

11. Project Period	12. Budget Period
6/1/90 - 9/30/91	6/1/90 - 9/30/91

13. Scope of Work (Attach additional sheets, as needed)

Attached.

RECEIVED
JUL 30 1990
EPA-AOO - ANCHORAGE

RECEIVED
JUL 23 1990
COMPTROLLER BRANCH

14. Statutory Authority for Both Transfer of Funds and Project Activities	15. Other Agency Type
Economy Act of 1932 as amended; Clean Water Act	Federal

Funds	Previous Amount	Amount This Action	Amended Total
16. EPA Amount		36,500	
17. EPA In-Kind Amount			
18. Other Agency Amount			
19. Other Agency In-Kind Amount			
20. Total Project Cost		36,500	

21. Fiscal Information

Program Element	FY	Appropriation	Doc. Control No.	Account Number	Object Class	Obligation/Deobligation Amt.
JWUB2D		689/0108	MH0041	JJWU10M00W	25.71	36,500

Part II - Approved Budget

EPA IAG Identification Number: DW14957002-01-0

22. Budget Categories	Itemization of This Action	Itemization of Total Project Estimated Cost to Date
(a) Personnel	$ 22,500	$ 22,500
(b) Fringe Benefits		
(c) Travel	1,000	1,000
(d) Equipment		
(e) Supplies	13,000	13,000
(f) Procurement/Assistance		
(g) Construction		
(h) Other		
(i) Total Direct Charges	$ 36,500	$ 36,500
(j) Indirect Costs: Rate % Base $		
(k) Total (EPA Share 100%) (Other Agency Share %)	$ 36,500	$ 36,500

23. Is equipment authorized to be furnished by EPA or leased, purchased, or rented with EPA funds? (Identify all equipment costing $1,000 or more) [ ] Yes [X] No

24. Are any of these funds being used on extramural agreements? (See Item 22f) [ ] Yes [X] No

Type of Extramural Agreement [ ] Grant [ ] Cooperative Agreement [ ] Procurement (Includes Small Purchase Order)

Contractor/Recipient Name (if known)	Total Extramural Amount Under This Project	Percent Funded by EPA (if known)

Part III - Funding Methods and Billing Instructions

25. [X] Funds-Out Agreement **(Note: EPA Agency Location Code (ALC) - 68010727)**

[X] Disbursement Agreement

[X] Repayment — Request for repayment of actual costs must be itemized on SF 1081 or SF 1080 and submitted to the Financial Management Center, EPA, Cincinnati, OH 45268:

[ ] Monthly [X] Quarterly [ ] Upon Completion of Work

[ ] Advance — Only available for use by Federal agencies on working capital fund or with appropriate justification of need for this type of payment method. Unexpended funds at completion of work will be returned to EPA. Quarterly cost reports will be forwarded to the Financial Management Center, EPA, Cincinnati, OH 45268.

[ ] Allocation Transfer-Out — Used to transfer obligational authority or transfer of function between Federal agencies. Must receive prior approval by the Office of the Comptroller, Budget Division, Budget Formulation and Control Branch, EPA Headquarters. Forward appropriate reports to the Financial Reports and Analysis Branch, Financial Management Division, PM-226F, EPA, Washington, DC 20460.

26. [ ] Funds-In Agreement

[ ] Reimbursement Agreement — [ ] Repayment / [ ] Advance

[ ] Allocation Transfer-In

Other Agency's IAG Identification Number	EPA Program Office Allowance Holder/Responsibility Center Number
Other Agency's Billing Address *(Include Agency Location Code or Station Symbol Number)*	Other Agency's Billing Instructions and Frequency

Part IV - Acceptance Conditions

EPA IAG Identification Number: DW14957002-01-0

27. General Conditions

The other agency covenants and agrees that it will expeditiously initiate and complete the project for which funds have been awarded under this agreement.

28. Special Conditions *(Attach additional sheets if needed)*

The U.S. Fish and Wildlife Service certifies: 1) that any indirect costs incurred and included in billings to EPA represent, in accordance with GAO principles, costs that would not have been otherwise incurred by the U.S. Fish and Wildlife Service, or 2) that statutory authority exists for charging other than the incremental costs of performance. If an audit determines that any direct or indirect costs charged to EPA are unallowable, EPA will be notified immediately following the resolution of the audit and EPA will be credited for those costs.

Part V - Offer and Acceptance

Note: 1) For Funds-out actions, the agreement/amendment must be signed by the other agency official in duplicate and one original returned to the Grants Administration Division for Headquarters agreements or to the appropriate EPA Regional IAG administration office within 3 calendar weeks after receipt or within any extension of time as may be granted by EPA. The agreement/amendment must be forwarded to the address cited in Item 29 after acceptance signature.

Receipt of a written refusal or failure to return the properly executed document within the prescribed time may result in the withdrawal of the offer by EPA. Any change to the agreement/amendment by the other agency subsequent to the document being signed by the EPA Action Official, which the Action Official determines to materially alter the agreement/amendment, shall void the agreement/amendment.

2) For Funds-in actions, the other agency will initiate the action and forward two original agreements/amendments to the appropriate EPA program office for signature. The agreements/amendments will then be forwarded to the appropriate EPA IAG administration office for acceptance signature on behalf of the EPA. One original copy will be returned to the other agency after acceptance.

EPA IAG Administration Office (for administrative assistance)	EPA Program Office (for technical assistance)
29. Organization/Address Environmental Protection Agency Grants Administration Section 1200 Sixth Avenue, MD-100 Seattle, Washington 98101	30. Organization/Address Environmental Protection Agency Alaska Operations Office Room 537, Federal Building Anchorage, Alaska 99515

Certification

All signers certify that the statements made on this form and all attachments thereto are true, accurate, and complete. Signers acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

Decision Official on Behalf of the Environmental Protection Agency Program Office

31. Signature	Typed Name and Title	Date
	Ronald A. Kreizenbeck Acting Director, Water Division	21 JUN 90

Action Official on Behalf of the Environmental Protection Agency

32. Signature	Typed Name and Title	Date
Jack N. Gakstatter	Jack Gakstatter, Chief Office of Puget Sound	6/21/90

Authorizing Official on Behalf of the Other Agency

33. Signature	Typed Name and Title	Date
Paul E Gertler	Paul Gertler NRDA Mgmt Team Representative	7/18/90

United States
Environmental Protection
Agency

Region 10
1200 Sixth Avenue
Seattle WA 98101

Alaska
Idaho
Oregon
Washington

EPA

JUN 21 1990

Reply to
Attn of: WD-139

MEMORANDUM

SUBJECT: Decision Memorandum - Interagency Agreement with U.S. Fish and Wildlife Service

FROM: John Armstrong
Office of Puget Sound

THROUGH: Jack Gakstatter, Chief
Office of Puget Sound

TO: Ronald A. Kreizenbeck
Acting Director, Water Division

Attached is a proposed interagency agreement (IAG) between the Environmental Protection Agency (EPA) and the U.S. Fish and Wildlife Service (USFWS) for $36,500. Under this IAG, the USFWS will complete two tasks. The first task will be to evaluate a sampling technique for determining the distribution and abundance of forage fish in relation to marine birds and marine mammals. The second task will create a database of beach segment survey data for future use in restoration projects.

The IAG is in compliance with statutory authority and EPA policy requirements.

We request your signature on the attached IAG and your concurrence below:

Concurrence:

Ronald A. Kreizenbeck
Acting Director, Water Division

Non-Concurrence:

Ronald A. Kreizenbeck
Acting Director, Water Division

Attachment

COMMITMENT NOTICE

NOTE: Preparation and approval of this form does not constitute an obligation of money. The use of this form is intended to guarantee availability of money by reserving it for certain types of specified transactions.

THIS COMMITMENT TRANSACTION IN THE AMOUNT OF $ 36,500 (WHOLE DOLLARS) IS FOR:

☐ GRANT (Number) ☐ A PURCHASE REQUISITION ☐ A CONTRACT

☒ OTHER (Specify):

DESCRIPTION OF PROJECT, GOODS, OR SERVICES
IAG To US Fish and Wildlife Service for a study of forage fish distribution in relation to marine birds and marine mammals and for the development of a beach survey database

NAME OF GRANTEE/CONTRACTOR/VENDOR	EMPLOYER IDENT. NO. (EIN)

TASK, ROAP, OR OTHER LOCAL IDENTIFIER

SPECIAL COMMENTS OR INSTRUCTIONS

ALLOWANCE HOLDER APPROVALS (Optional, at discretion of Allowance Holder)

ALLOWANCE HOLDER TITLE: US EPA Region 10

STAFF APPROVALS

SIGNATURE	DATE	PHONE
Jack Gakstatter, Chief, Office of Puget Sound	6/21/90	FTS 399-0966
Ron A. Kreizenbeck, Acting Director, Water Division	6/21/90	FTS 399-1237

RESPONSIBILITY CENTER TITLE: WATER DIVISION

FUNDS CERTIFICATION

PREPARED BY	APPROVED BY
SIGNATURE: Ellen Peterson	SIGNATURE: Ellen Peterson
DATE: 6-22-90	DATE: 6-22-90

FOR RESPONSIBILITY CENTER USE ONLY

Contract negotiator is ☐ is not ☐ authorized to exceed amount shown above by up to 10% without securing further approval for funds.

THE AMOUNT OF MONEY SHOWN IS:
☐ AN ORIGINAL COMMITMENT ☐ AN INCREASE TO A PREVIOUS COMMITMENT ☐ A DECREASE TO A PREVIOUS COMMITMENT

FINANCIAL DATA (See instructions on reverse before filling out) — APPROPRIATION:

FMO USE														DOCUMENT CONTROL NO.						ACCOUNT NUMBER										OBJECT CLASS				DOLLAR AMOUNT											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
2									0	4	0			M	H	0	0	4	1	J	J	W	U	I	0	M	0	0	W	2	5	7 0	1 0						3	6	5	0	0	0	0
2									0	4	0																					0	0											0	0
2									0	4	0																					0	0											0	0
2									0	4	0																					0	0											0	0

TASK 1

RESTORATION STUDIES - PILOT PROJECT

Title

Pilot Project -- Distribution and abundance of forage fish in relation to marine birds and marine mammals in northeastern Prince William Sound.

Introduction

Many species of marine birds and marine mammals feed mainly on schooling forage fish (e.g., sandlance, capelin, and herring). Populations of some marine bird and marine mammal species in Prince William Sound have decreased during the past 18 years (Dwyer et al. 1975, Klosiewski, pers. comm.). The reasons for these declines are unknown, but may be related to food availability. If the Exxon Valdez oil spill negatively affected forage fish populations we might expect an accelerated decline of some marine bird and mammal populations. Marine bird and mammal species require appropriate habitat and food to maintain stable populations. If restoration studies repair or replace habitat damaged by oil, but sufficient food does not exist, then there will be no restoration of the target species.

Objective

I. Determine distribution and relative abundance of forage fish in relation to foraging and non-foraging marine birds and mammals.

Methods

This pilot study would be conducted in conjunction with an existing non-oil spill study being done in the northeastern portion of the Sound. Major equipment items such as boats could be shared with the ongoing study, thereby decreasing costs. The work would be concentrated in the area between Bligh Island and Glacier Island and would stress testing techniques that would be used in a fully funded study.

The objective of the study would be met using the following procedures. First, the precise area to be studied would be defined, within this area 20 to 30 random transects 1 KM in length would be chosen. These transects would be surveyed from 28 June to 15 August twice a day, every other day to determine the temporal and spatial variation of forage fish, marine birds, and marine mammals. Presence, behavior (i.e., foraging, flying, or resting), and exact location of marine birds and marine mammals would be recorded for a width of 200 meters along the

transects. Presence of fish would be recorded with a chart recording fathometer. Species of forage fish in the area would be determined by collecting birds foraging on the fish and through the use of gill nets. Birds will be collected with a shot gun using # 4 steel shot. Stomachs will be removed immediately and will be preserved in alcohol. Dates, start and end times, local weather and sea conditions will be recorded for each transect. Exact locations of transects will be determined with the use of a LORAN and nautical charts. The degree of the temporal and spatial variability found in the pilot study would help determine the appropriate sample size and timing of surveys for a large scale study.

The EPA person associated with this project is Brian Ross, OIL Spill Restoration Team, (907-271-2461). The USFWS personnel are Paul Gertler, Deputy Assistant Regional Director for Oil Spill (907-786-3579), Kent Wohl, Project Leader, Marine and Coastal Birds (907-786-3503), David Irons, Wildlife Biologist, Project Leader (907-786-3376), Mary Beth Decker, Biological Technician, Camp Leader (907-786-3443).

All data will be stored at the USFWS Anchorage office in the Migratory Birds division. David Irons (907-786-3376) may be contacted in order to retrieve the data.

Schedule: Complete report on the success of the pilot project by Sept. 30,1990

Task 2

ASSESSMENT OF BEACH SEGMENT SURVEY DATA FOR RESTORATION

INTRODUCTION/JUSTIFICATION:

There is a large collection of beach survey information obtained via the fall and spring surveys (walk-a-thon and S.A.T.). More is expected to be added when the 1990 fall survey is completed. These data are expected to complement the information obtained from ongoing studies by adding to the land and habitat database. This study will assist in further identifying restoration project sites, particularly in identification of potential acquisition of equivalent resources. Additionally, it should prove valuable in providing further information for analytical purposes in the development of the restoration planning matrix.

Subtasks:

A. Under guidance from the restoration planning workgroup and technical advisors obtain and translate to maps, pertinent beach survey information that is not currently available in hard copy.

B. Analyze possible trends in information for applicability to feasibility studies.

C. Create a data bank, via G.I.S. and d-base, for future reference use in restoration projects.

METHODS AND ANALYSES:

Research and map, using standard cartographic and G.I.S. techniques, all available information from the fall 1989, spring 1990 and fall 1990 walk-a-thon and S.A.T. surveys. Combined with other ongoing studies, this will provide further support in the selection process for specific restoration sites and habitats. It may also prove advantageous for documenting natural recovery processes that may be occurring.

SCHEDULE: Complete report on the success of the creation of the databank by Sept. 30, 1990

United States Environmental Protection Agency
Washington, DC 20460

EPA Project Officer's Interagency Agreement Invoice Approval

Instructions

12/10/90

1. Complete and return to the Servicing Finance Office indicated below.
2. Return the original copy; retain the duplicate copy for your files.
3. Send either a completed form or an explanation for disapproval within five calendar days of receipt of invoice to assure responsive payment processing to the other agency. If you cannot approve payment, or if you approve partial payment, return invoice with a memorandum of explanation.
4. Dollar amounts distributed by account number must equal total amount to be paid.

Part 1. Identification

Servicing Finance Office: EPA Accounting Operations Office MS213 Cincinnati, OH 45268	Agency: DEPT. OF JUSTICE
	IAG Number: EPA IAG DW15 95 7003
	Invoice Number: OPAC #04805098
Type of Bill: [ ] 1. 1080 [ ] 2. 1081 [X] 3. OPAC [ ] 4. SIBAC	Date: 11/30/90 — Invoice Amount: $20,000.00
	Site *(if necessary)*

Part 2. Account Charges Instructions

Task	Account Number(s)	Dollar Amount
		.
		.
		.
		.
Total Amount To Be Paid	[ ] As Invoiced [ ] Partial Payment	$.

Incomplete or Inaccurate Data on This Form Will Delay Payment of the Invoice

Part 3. Approval for Payment

I have determined that the above-cited IAG has commenced and the payment requested is commensurate with the Agency's level of progress on the IAG:

[ ] Goods or services have been delivered in full as requested by the IAG to support this payment.

[X] Sufficient progress has been made by the other agency to support this progress payment as authorized by the IAG.

Payment Document Requires Immediate Action

Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

Project Officer's Signature: Brian Ross

BRIAN ROSS
EPA ALASKA OPER.
RM. 537, FED. BLDG
ANCHORAGE, ALASKA 99513

Date: 12-17-90

Telephone Number: (907) 271-2461
FTS: 868-2461

EPA Form 2550-21 (11-88)

ROUTING AND TRANSMITTAL SLIP

Date: 6-20-90

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	Date
1. B. Ross AOO	A	
2.		
3.		
4.		
5.		

	Action		File		Note and Return
	Approval		For Clearance		Per Conversation
	As Requested		For Correction		Prepare Reply
	Circulate	✓	For Your Information		See Me
	Comment		Investigate		Signature
	Coordination		Justify		

REMARKS

File w/ Flex. Projects, in new file "IAGs/CONTRACTING FOR 1990 PROJECTS"

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)	Room No.—Bldg.
EPA MD-100	Phone No.

5041-102

GPO : 1987 O - 196-409

OPTIONAL FORM 41 (Rev. 7-76)
Prescribed by GSA
FPMR (41 CFR) 101-11.206

United States
Environmental Protection
Agency

Region 10
1200 Sixth Avenue
Seattle WA 98101

Alaska
Idaho
Oregon
Washington

RPWG
G

EPA

RECEIVED
JUN 22 1990
EPA-AOO - ANCHORAGE

Reply To
Attn Of: MD-100

Dave Gibbons
U.S. Department of Agriculture
U.S. Forest Service
P.O. Box 21628
Juneau, Alaska 99802-1628

Re: IAG: DW12957001-01-0

Dear Mr. Gibbons:

Please review the enclosed interagency agreement titled "Restoration of Fucus Communities in Prince William Sound, Alaska".

If you wish to accept the agreement, please have your authorizing official sign both copies and return one copy to Grants Administration Section, MD-100. The other copy with official signatures should be retained by your agency. Your early attention will be appreciated. The transfer of these funds from EPA cannot begin until we have received the signed agreement.

If you have questions or comments regarding the administration of this agreement, please contact Mel Rozier, of my staff, on FTS 399-2919.

Sincerely,

Oddvar K. Aurdal

Oddvar K. Aurdal, Chief
Grants Administration Section

Enclosures

cc: Brian Ross, EPA/AOO
John Armstrong, WD-139

RPWG

Filed w/ IAG to USFS (Feas. Study)

United States Department of Agriculture | Forest Service | Alaska Region

---

Reply to: Indirect Charges

Date: July 17, 1990

Subject: Overhead Charges by UAF on EPA Restoration Project

To: Ray Highsmith
Cathrine Fenton

Ray, as per our discussions of July 12th, the University of Alaska - Fairbanks can assess overhead charges to the entire $80,000 Fucus restoration project. The U. S. Environmental Protection Agency has agreed with my interpretation that the prohibition of indirect costs (p.3 of Interagency Agreement) applies only to the U. S. Forest Service, and not to our subcontract with the University. Thus, since the Forest Service is passing the full amount of the Agreement to the University and not assessing charges of any kind, all stipulations within the agreement have been met.

If you or any other University personnel have any questions, please call me at (907) 586-8784.

Dave R. Gibbons, Ph.D.
Project Manager
Coastal Habitat Damage Assessment Project

cc: Brian Ross, EPA
Glenn Maguire, FS

Date: 7/17

Cover Page

To: Brian Ross Fax No.: 271-2467

Unit: _____ Verification No.: _____

WO (DC): _____ WO (Arlington/Rosslyn): _____

From: Dave Gibbons Fax No.: 586-2840

Unit: _____ Verification No.: _____

Remarks: FYI

Total number of pages (excluding cover): 1

Date Sent: 7/17 Time: 9:45