RPWG
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1990 Federal Register Notice

NEWEST VERSIONS THRU 12-3

RPWG PRODUCT
DRAFT FR NOTICE OUTLINE
NOVEMBER 13, 1990

FEDERAL REGISTER NOTICE -- Draft Outline

Draft Restoration Work Plan and Proposed
1991 Restoration Program

I. Introduction (5 pages)
   Purpose of this notice (Present draft restoration work plan and 1991 restoration program and report on results of 1990 projects)

II. Restoration Plan Development (7 pages)
   Introduction
   - Dynamic process, interim step only, information still being assessed
   - Leads to final restoration plan after settlement of damage claim

   Identification of need for restoration
   - NRDA data, feasibility studies, literature review, shoreline surveys etc.

   Development of alternatives
   - Public workshops, reports, literature review

   Evaluation of potential restoration measures
   - Feasibility studies, literature reviews, matrices, selection "criteria" etc.
   - Peer review and public comment

→ Implementation (incl.) Compliance with Federal/State statutes and regulations, i.e.. CZM, NEPA, and others

   Final restoration plan developed after settlement

III. Summary of 1990 Restoration Work (5 pages)
   Restoration Planning Activities
   1990 Feasibility Study Results

IV. Proposed 1991 Restoration Program (7 pages + 2/proposed project)
   Introduction
   Present 1991 restoration, feasibility, technical support, and recovery monitoring projects for comment, including "criteria" used for selection
   Peer Review
   Public comment/involvement/participation

V. Summary and Request for public comment on items in this FR notice (2 pages)

11-21-90 Version

CH. I

INTRODUCTION

Purpose: This Notice presents information relating to the restoration of Prince William Sound, Cook Inlet, and the Gulf of Alaska following the *Exxon Valdez* oil spill of March 1989. Overall, this Notice constitutes a draft *Restoration Work Plan;* included are proposals for work to be conducted in 1991 and summaries of results from 1990 activities and projects.

The Work Plan describes the process being followed by the State and Federal trustees (State of Alaska, U.S. Department of Agriculture, U.S. Department of the Interior, and the National Oceanic and Atmospheric Administration) and the Environmental Protection Agency (EPA) for preparation of a comprehensive Restoration Plan for natural resources injured by the *Exxon-Valdez* oil spill. This Work Plan is not itself a comprehensive Restoration Plan, but rather specifies the steps that will be followed to develop such a plan. A final Restoration Plan can be fully implemented only following settlement of a claim for damages to be presented to the parties responsible for the spill. Also, this Work Plan by itself is not intended to satisfy the requirements of the federal Natural Resources Damage Assessment (NRDA) regulations under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Clean Water Act.

Although this draft Restoration Work Plan is not a comprehensive Restoration Plan. it includes a *Proposed 1991 Restoration Program* which presents initial restoration projects, as well as supporting studies and other work, being considered by the trustee agencies for implementation in 1991. The Proposed 1991 Restoration Program differs from efforts undertaken during 1990 in that a limited suite of actual restoration projects is being considered, in addition to studies. Only a limited program of actual restoration projects can take place at this time because all of the studies documenting injuries (NRDA) have not yet been completed, and because restoration funds are not yet available from the responsible parties. Nevertheless, the trustee agencies have determined that certain restoration measures must be considered at this stage, rather than delaying them for what could be years before settlement is reached, to ensure that injured resources

can recover as quickly and fully as possible and in some cases to avoid further injury.

Finally, this Notice summarizes the results of initial restoration planning activities and projects, including technical support projects and feasibility studies, carried out during 1990.

This information is published in the Federal Register specifically so that the public may comment on initial restoration priorities and methods. Public involvement throughout the restoration planning process is needed to responsibly balance potentially conflicting biological, social and economic objectives. EPA and the State and Federal trustees urge all interested parties to give careful consideration to this draft Restoration Work Plan and Proposed 1991 Restoration Program. Comments will be accepted through February 13, 1991, and should be submitted to: _____ .

Based on public comment and ongoing legal and technical reviews being conducted by the trustees and EPA, this document will be revised and a final Restoration Work Plan and 1991 Restoration Program will be published in the spring of 1991.

For further information about the Exxon-Valdez oil spill, the NRDA studies, and restoration Planning activities, the following documents may be obtained from _____: (cite Buff Book, Symposium report, August Progress report).

Kon's comments

11-21-90 Version

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based on information from 2 yrs of NOAA studies,

a full restoration program is not timely.

can recover as quickly and fully as possible and in some cases to avoid further injury.

The last part of this

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(2) ~~Based on public comment and ongoing legal and technical reviews~~ will be incorporated into the decision making process. The comments & an ongoing review will form the basis for a revised being conducted by the trustees and EPA, ~~this document will be revised and a~~ final Restoration Work Plan and 1991 Restoration Program ~~will~~ to be published in the spring of 1991.

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(4) Although results of the NRDA studies are not fully available for public review at this time, thus making it difficult for commenters to completely understand the tie between NRDA studies and the proposed 1991 Restoration Program,

GLOSSARY OF ABBREVIATIONS AND ACRONYMS

ADF&G	Alaska Department of Fish and Game
AFK	Armin F. Koernig Fish Hatchery
AHs	Aromatic hydrocarbons
AHH	Aryl hydrocarbon hydroxylase
ANOVA	Analysis of variants
A/W	Air/Water
AWL	Age, weight, length
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CI	Cook Inlet
CIK	Cook Inlet/Kodiak
CTD	Conductivity/temperature/depth
CWA	Clean Water Act
CWT	Coded wire tag
DEC	Alaska Department of Environmental Conservation
DNR	Alaska Department of Natural Resources
DOA	Department of Agriculture
DOC	Department of Commerce
DOI	Department of Interior
DBMS	Database Management System
EPA	Environmental Protection Agency
EVOS	EXXON Valdez oil spill
FRED	Fisheries Rehabilitation, Enhancement and development Division, ADF&G
F/S	Fish/Shellfish
FWS	U. S. Fish and Wildlife Service
GC-MS	Gas chromatography-mass spectrometry
GOA	Gulf of Alaska
KAP	Kodiak Archipelago/Alaska Peninsula
KP	Kenai Peninsula
LCI	Lower Cook Inlet
MFO	Mixed function oxidase
MLLW	Mean lower low water
NOAA	National Oceanographic and Atmospheric Administration
NPH	Naphthalene
NPS	National Park Service
NRDA	Natural Resource Damage Assessment
NSO	Nitrogen-sulphur-oxygen
OSSM	On scene spill model
PED	Potential egg deposition
PHN	Phenanthrene
PWS	Prince William Sound
PWSAC	Prince William Sound Aquaculture
QA/QC	Quality Assurance/Quality Control
RPWG	Restoration Planning Work Group
SCAT	Shorline Cleanup Advisory Team
SSAT	Spring Shoeline Assessment Team
VFDA	Valdez Fisheries Development Association

(2)

FEASIBILITY STUDY: REDUCTION OF POTENTIAL SOURCES OF DIS FOR BALD EAGLES IN THE EXXON VALDEZ OIL SPILL ARI

Disturbance has been cited as an alternate cause of the reduction in breeding success for bald eagles observed following the EXXON Valdez oil spill. Intense air traffic and frequent disturbance by cleanup workers may have had adverse consequences for nesting success. As a result of these concerns activity near bald eagle nests was controlled during the 1990 nesting season. The management guidelines developed to control activities near nest sites were based primarily on the best judgement of experienced biologists rather than on empirical data. These guidelines could undoubtedly be improved through a review of existing data collected during response and assessment activities and carefully designed experiments. Guidelines based on fact instead of intuition would provided better future protection to bald eagles and be more acceptable to people influenced by those guidelines.

OBJECTIVE

Determine the influence of disturbance on bald eagle reproductive success by activities associated with spill response or other human actions and develop sound guidelines that will provide protection for nesting eagles while not unduly restricting human activity.

SCOPE OF WORK

The project would be conducted in two phases. The initial phase would review information collected in 1989 on the reproductive success of bald eagles and attempt to correlate the observed success rates with the level of cleanup activity. The review would need to consider the timing of the human activities in relationship to the nesting chronology and the confounding influence of the oil. It is likely that the most heavily oiled beaches were also the beaches most disturbed by cleanup activities.

The second phase would be experimental simulation of response type disturbances to collect the empirical data necessary for the development of sound guidelines. Insights gained during the review of the 1989 data will be used to design meaningful simulations and disturbance models.

PERIOD OF PERFORMANCE

The initial phase of the project would be conducted from March 1, 1991, through February 29, 1992. The experimental phase would be conducted in subsequent field seasons.

PRODUCTS

A report on the review on 1989 data and a study plan for the second phase would be completed by February 29, 1992. Revised guidelines and project reports would be completed on a schedule defined in the study plan for the second phase.

Brief Proposals #2 for Restoration Feasibility Studies

Red King Crab Rehabilitation Feasibility

I. DESCRIPTION

1. Title: **Red King Crab Rehabilitation Feasibility Study**
2. Goal: Test feasibility of culturing red king crab embryos to their first benthic stage, evaluate settlement of the young crabs in two "seeded" and one control bay, report and make recommendations based on findings.
3. Location: Kodiak
4. Team: Lonnie White, FB III, Leader. Cooperative effort with Commercial Fisheries Division staff.
5. Schedule: Start March 1991; Three-year study.
6. Background: Red king crab populations were at a very low level prior to the Exxon Valdez oil spill. If impacted, some stocks would be at increased risk, and recovery could extend for many years: 50? Culture of crabs could be a tool to accelerate recovery of stocks. Culture of red king crab has been accomplished by the Japanese.

II. JUSTIFICATION

1. Need: Red king crab are a high-value product. Restoring populations to higher numbers would restore earnings to the fishing fleet.
2. Benefits: This feasibility study would provide information needed to evaluate this culture approach with red king crab in Alaska.
3. Criteria

   A. Relationship to NRDA studies and injured natural resources.
   B. Identified public concern: Item E. Mariculture in the fish and shellfish matrix would encompass this approach.
   C. Ability to implement the study in the near future: Study plan has been developed and is ready to implement as soon as funds are available.
   D. Reasonable likelihood of success: Team leader Lonnie White has a proven track record in mariculture and fisheries project accomplishment. Staff are available. Japanese success improves probability of success. It is highly likely that a feasibility study will be completed and needed information produced and reported.
   E. Cost relative to funds available: Yearly cost of $111,330 for each of three years.

III. OBJECTIVES

1. Method: This project will test the feasibility of culturing red king crab from embryos to the first benthic stage. Research will involve culturing of young crabs and evaluation of the success of their settlement in two bays.

A. Culture and Research
B. Evaluation of Settlement
C. Recommendations and Design for Expansion

The project involves cooperative work with the Commercial Fisheries Division.

2. Evaluation: Final evaluation will be based on successful settlement of crabs in the two seeded bays, as compared to the control bay. Enumeration of crabs stocked and crabs settled are an important part of the study. Of the budget, 35% or $39,000 is for the evaluation task.

IV. APPROACH

1. Method: This is a three-year project. The first year will focus on establishing the crab culture facilities and trial runs with proposed methods. The second year is when major production numbers will be collected. The third year will be a replicate of year two.
2. Evaluation: Enumeration of crab stocked and crab settled are key data.

V. BUDGET ESTIMATE

1. By Task: Culture: $72,330; Evaluation: $39,000. Total: $111,330/year.
2. Future Costs: Year Two: $111,330. Year Three: $111,330.

VI. ABSTRACT

To restore red king crab through culture. Test feasibility of culturing red king crab embryos to the first benthic stage, evaluate the settlement of young crabs in two seeded bays and one control bay, and report with recommendations.

Alternatives Considered:

No action. Not implementing this program in 1991 will result in the continued access, crowding, and sanitation problems observed at these sites during 1989 and 1990. A second alternative considered was the use of Dingall-Johnson (DJ) funds for these improvements. Although access and facility improvements at these sites were expected to be needed in the future, the oil spill has resulted in these developments being required much sooner than they would have had the spill not occurred. The appropriation of access funds from DJ monies for these programs at this time would eliminate the much needed access and development projects scheduled for other sites from the current and near-future DJ appropriations.

Cost:

No cost estimates have been formulated to date. Evaluation of project scope, engineering and design costs, and materials and labor will need to be completed before a final cost estimate can be provided.

PROPOSED 1991 RESTORATION PROJECT DESCRIPTION

[redacted]

Lead Agency: Alaska Department of Fish and Game

Principal Investigator: Kent J. Roth

Introduction:

Prince William Sound (PWS) supports a significant recreational fishery for salmon, trout, char, and bottomfish. Additional sportfishing opportunities have been created in recent years with the enhancement of salmon in Valdez and Cordova. The 1989 oil spill impacted the native populations of fish in PWS and has increased public awareness and use of the recreational resources of PWS. While public use of access sites in PWS have been increasing in recent years, activity levels have increased dramatically as a direct result of the spill. There has been an increase in pressure placed on both impacted and nonimpacted fish stocks, increased demand and competition for parking areas, and a shortage of proper sanitation facilities on already crowded existing sites. The increased activity levels are a result of both increased awareness and recreational use by the public as well as increased use by transients working both directly and indirectly with spill cleanup and restoration programs.

The goals of the access restoration project is improve access, parking and sanitation facilities in the Cordova and Valdez areas which have resulted from the large influx of people to PWS as a result of the oil spill.

Methods:

Parking areas, access sites, and sanitation facilities would be expanded and upgraded in Cordova at Flemming Spit and in Valdez in the area near Allison Point; two areas impacted from increased awareness and activity as a result of the oil spill.

Duration and Scope:

The program would initially run from June 1, 1991 through May 30, 1992. Program completion would depend on the time frame required to obtain any permits, designs, and bids required for the program. The scope of the program will include the research, permitting, land acquisition, design, and construction of the facilities and parking areas in Cordova and Valdez.

Expected Results:

The improvements to parking and access would help relieve the problems of congestion, overcrowding, sanitation, and accessibility in Cordova and Valdez. This would help restore these fisheries back to the previous levels of a quality fishing experience for the recreational angler. In addition, a reduction of ground litter and erosion is expected.

Scope of Work

1. Contact local water testing labs to determine feasibility of testing fresh water for the presence of *Giardia* and cysts both in the field and in the lab.

2. Evaluate practicality of collection and testing procedures.

3. Utilizing existing data bases, determine feasibility of identifying potable water sources in high use recreation sites within the affected area.

Period of Performance

Winter, 1991.

Budget

To be determined.

Responsible Agency

ADNR

DRAFT
Feasibility Study Proposal

Potable Water Quality Study

Background

A number of recreational pursuits that take place within the affected area involve time periods ranging from hours to several days or even weeks. These types of activities include: camping, kayaking, sailing and sport fishing. Due to the size of the area and the difficulty of logistics supply from distant sources, recreationalists are often forced to utilize local sources of potable water, i.e., freshwater streams. The quality of the water within these streams is often suspect due to the possible presence of pathogens. The most common is *Giardia lamblia* a protozoan that causes an infection of the intestinal tract known as giardiasis. The protozoan can be transmitted by wild mammals and by man through cysts in fecal material that are deposited in water reservoirs. Potable water sources are also now possibly contaminated by petroleum hydrocarbons.

Although *Giardia* possibly occurred in the affected area prior to the spill, individual streams had never been surveyed for its presence. During the several seasons of cleanup, thousands of people worked on the beaches and ventured into the uplands. It is not unreasonable to assume that human fecal material was deposited in or adjacent to streams that are sources of potable water. This raises the possibility that the protozoan was introduced into these areas even by people who were non-symptomatic[1]. Once established in wild mammal populations it will undoubtable be persistent and represent a threat to recreationalists.

Objectives

- ☐ To determine feasibility of identifying potable water sources in high use recreation areas within the affected area.
- ☐ To determine feasibility of carrying out microbiological water quality analyses of potable water sources within the affected area.
- ☐ To determine whether potable water sources are affected by the presence of petroleum hydrocarbons from the EVOS.

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[1] "They are found in stools of many normal persons in the cyst form." Fuerst, Robert, 1963. Microbiology in Health and Disease, W.B. Saunders Co., Philadelphia, p. 399.

projects that are well in place. ADFG Habitat Division data and possibly DEC water quality sampling would be incorporated to evaluate changes in the water column and ecosystem affects.

2) Standard aerial survey methods would be employed to follow and enumerate herring schools; these methods have been in place for over ten years; additional staff time and training would be required.

Duration and Scope: The scope of project will be include all coastal areas in and near Prince William Sound where timber harvest activities coincide with herring spawn. It is expected that a one year scope will be sufficient to evaluate the effects of upland use on herring spawn.

Expected Results: Knowledge of effects of upland ecosystem activity and damage will be revealed through this study. The results gained may help in evaluating upland timber resource acquisition as a restoration tool.

Alternatives Considered: No action. Effects of logging and timber storage on herring spawn will remain unknown.

Cost: For 1991 the monitoring would cost approximately $15,000.

Proposed 1991 Restoration Project Description,
Natural Recovery Monitoring Project

Title: Prince William Sound Recovery/Damage Affects logging

Lead Agency: Alaska Department of Fish and Game

Principal Investigator(s): James Brady and Evelyn Biggs

Introduction: Prince William Sound adult herring spawning migration timing coincided with the Exxon Valdez spill disaster and as a result, over 40% of the spawning area was oiled before and during egg deposition. Significant sublethal effects and resulting damage was measured on herring eggs and larvae and there is evidence from data collected in 1990, as well as from historic literature, that second and third year affects are and will occur due to direct and indirect oiling of herring roe, deposited eggs, and hatched larvae. Damage resulting from 1989 and subsequent years will affect recruiting herring spawning as early as 1992 (as partially recruited 3 year olds) and beyond (as fully recruited 4 year olds and older). Effects on herring stocks of further damage to the ecosystem, for example by upland timber harvest and log storage, are virtually unknown; these effects would compound the damage done by the spill. Therefore, it is proposed that possible damage from upland timber and log storage be examined in areas currently used for timber harvest that overlap herring spawning areas. In this way an evaluation could be made, in terms of the herring resource alone, of acquisition of upland timber and marine sanctuary creation as a restoration tool that prevents further stock damage by protecting further ecosystem damage.

The following goals and objectives have been identified that will add monitor effects of upland timber resources on herring spawn:

1) Measure rates of sedimentation, water quality, herring egg survival, and hatching success in sites selected directly adjacent to active logging areas. Compare these rates to nearby sites with comparable spawn densities that are pristine.

2) Expand the normal aerial survey program to enable daily monitoring of schools of spawning herring near timber harvest areas and document their behavior and movement.

Methods: The following methods will be employed to complete the objectives listed above:

1) Methods would be employed similar to those already utilized in the spawn deposition survey and herring egg mortality

to be large at this site. The Pribilof Islands, at least some parts of the colonies, meet all of the above requirements.

Objective A. Productivity Plot 62 and other nearby sites at St. Paul Island, Pribilof Islands are sites that the biologists at the Alaska Maritime National Wildlife Refuge would recommend. Plot 62 used to be utilized by approximately 80 common murres and some thick-billed murres. Then a fox discovered how to get onto this ledge and the murres have not been able to breed for several years now and have abandoned the spot other than minor occasion roosting. It would not be hard to modify this cliff so that the fox could not get on it again. The use of decoys and vocalizations could then be used to see if recolonization could be restored. There are other sites where a wall could be built or cliffs modified and the same procedures could be used to see if murres can be encouraged to use suitable habitat that did not even exist before.

Objective B. At the present time, we do not know what triggers the synchronized egg laying of common murres, which appears to be very important for their breeding success. Is it certain densities, presence of experienced breeders, or what? Is there a nutritional control and do oil contaminants have any effect on this process? These experiments can provide some additional insight into some of the causes of failure as well as mechanisms and timing of recovery.

Budget

I have not been able to work up a budget, but I would estimate something in the 20,000-40,000 unless it was added on to some other project already in effect at the desired site. I would suggest that someone like Art Sowls who is familiar with work on the Pribilof Islands comes up with specific budget recommendations.

Period of Performance

Since most colonial seabirds are long-lived and do not reproduce until 3-5 years of age, this study should be spread out over as many years as possible so as to give it a reasonable chance of success in documenting some change.

Responsible Agency

This proposal has been requested at short notice and prepared by David Nysewander, who works out of the Alaska Maritime National Wildlife Refuge. He is personally not available for this project due to other commitments. Some refuge personnel might be available if money is provided or some entity outside of the Service could be contracted to pursue this project if it is deemed desirable.

Brief Proposals #9 for Restoration Feasibility Studies

Rehabilitation/Restoration of Rockfish Feasibility Study

Injury Documentation:link to NRDA

Tissue analysis of resident populations of rockfish in reef zones affected by the oil spill demonstrate exposure to hydrocarbons. Populations of rockfish may have been reduced. Recruitment may be dramatically reduced in populations of sexually mature fish and several age classes could experience low fecundity, and low numbers of larval forms. It may take several years before recruitment of rockfish are improved.

Methods

Culture techniques for rockfish are not developed in North America, however, appropriate food organisms, and culture practices that have been applied to marine fishes with very small larval lifestages are expected to be applicable to rockfish. This study would begin with a literature search for rock fish culture experiences from Japan. Techniques for collecting fertilized females from live bearing species would be tested at selected sites impacted by the oil spill.

Trial incubation of fertilized eggs would be tested at a selected State Hatchery in PWS or Kodiak.

Likelihood of project ultimately being proposed as a full scale restoration measure

Probability of successful study.

Ecological importance of target resource.

Ability to evaluate success and document ecological value of project

Cost of feasibility study.

Investigators:

Keith Pratt, FRED Division; .

RESTORATION PROPOSAL: RECOLONIZATION OR RESTORATION OF NORMAL DENSITIES AND REPRODUCTIVE BEHAVIOR OF ALASKAN MURRE COLONIES

Title

Use of decoys and vocalizations to encourage restoration of numbers of breeding murres and synchronization of egg laying at a selected site in Alaska.

Introduction

Work has been done in recent years (Science News, September 1990) where decoys and recordings of colony sounds and vocalizations have been utilized to encourage the return of terns, puffins, and petrels to breeding islands that no longer contained those species because of past perturbations. One of the effects of the Exxon Valdez oil spill has been to greatly reduce the numbers and density of common murres at certain colonies in the Gulf of Alaska. An additional effect is a new lack of synchrony in egg laying at these same murre colonies. This lack of synchrony in egg laying has dramatically decreased the productivity of these murre colonies the last few years. No work is published or known that has been done with murres to see if the restoration of synchronized egg laying and murre numbers at colony sites can be enhanced by techniques such as decoys and vocalizations.

Objectives

A. To try different applications of decoys and vocalizations to determine if these techniques can be used successfully to hasten restoration of murre breeding colonies or portions thereof that have lost breeding populations.

B. To refine our understanding of how a murre colony reestablishes itself.

Methods

This type of study will probably require a site which has the following characteristics: 1)the actual murre colony or breeding ledges can be reached; 2)the site has a known history of murre use and change in usage; 3)the use of equipment and batteries will need some site that is relatively easy logistically; and 4)the site should not have other biological complexities that limit its capability to increase murre numbers.

There are only a few murre colonies in Alaska where the ledges can be reached very easily (Middleton Island, Bogoslof Island, and the Pribilof Islands). Bogoslof is probably not desirable because it is remote, logistically tough, and does not have a base line data of past murre numbers. Middleton Island is probably not suitable because of the exponentially increasing gull population found there and the limited habitat and historical potential for murre numbers

RESPONSIBLE AGENCY

U.S. Fish and Wildlife Service
Raptor Management
P.O. Box 21287
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