

MEMORANDUM

TO: Council, AP and SSC Members

FROM: Clarence G. Pautzke
Executive Director



DATE: September 18, 1990

SUBJECT: Inshore-Offshore

ACTION REQUIRED

Receive status report and recommendations of Fishery Planning Committee. Determine whether to limit analysis to pollock and eliminate Pacific cod.

BACKGROUND

In August the Council received word that the analytical team was on schedule with regard to development of economic models and collection of social impact data. The Council was also notified that OMB had approved the request for a comprehensive economic survey that would provide valuable information necessary for the inshore-offshore analysis and other projects. Since early August, approximately 1,500 survey questionnaires have been sent to permit holders of catcher boats, mothership processors, catcher/processors, and shorebased processing plants. Responses from catcher boats are already arriving back at the Alaska Fisheries Science Center. No responses from the processing sectors have been received but they will likely require more time, given the length of their questionnaires. Responses from all industry sectors are due October 6. The next step will be to review the survey responses, conduct any follow-up clarification that is necessary, and codify and enter the data onto the computer. Using this economic data, analysis will begin in earnest by early November. A copy of the current work schedule for the inshore-offshore analysis is included in your notebooks as item C-2(a).

On August 25, the Fishery Planning Committee reviewed progress on the inshore-offshore analysis, received a presentation on the design of the social impact analysis, and discussed the work schedule. A report summarizing their meeting is provided as item C-2(b).

With reference to the social impact analysis, the Committee recommends that the Council endorse the use of Seattle/Ballard as one of the communities where potential social impacts resulting from the inshore-offshore management alternatives are evaluated. Dr. John Petterson, the chief analyst working on the social impact analysis, met with the Committee and described the problems in attempting to analyze the regulatory impacts of fisheries measures on Seattle in the same detail as required for comparative analysis of smaller, more socially isolated communities. Given the Committee's preference to incorporate Ballard into the study where possible, Dr. Petterson presented

two options, outlined in his letter provided as item C-2(c). One option would be to expand the study to consider Ballard in a way that parallels the examination of the other six communities (Kodiak, Sand Point, St. Paul, Unalaska, Bellingham, Newport). This option would require considerable time and funding to accomplish. The second option, which Dr. Petterson recommends, would consist of interviews with key processors, fishermen, industry leaders, etc., to develop sufficient information to describe qualitatively potential social impacts. Dr. Petterson believes this option would bring to the Council analysis the type of information being requested by the Committee while still maintaining the Council's current work schedule. It would also be the least costly of the two options. Estimated cost is \$10,000.

The Committee recommends that the Council consider requesting additional funds to perform social impact analyses. The Committee anticipates that social analyses will become more critical to future Council decisionmaking and additional funds are necessary to obtain the required expertise. A draft funding request to the Secretary will be available at meeting time. A recent journal article describing social impact evaluation as a requirement under the National Environmental Policy Act is provided as interesting background information (item C-2(d)).

Dr. Petterson has also recommended that the Council endorse a 10-year horizon for purposes of describing social/health concerns in the analysis. A longer time horizon is needed since social impacts created by regulatory actions may not appear immediately. The Fishery Planning Committee supports this recommendation.

The Committee has also questioned whether Pacific cod should remain as part of the inshore-offshore amendment. Deletion of the Bering Sea Pacific cod fishery, in particular, may simplify the analysis and assure that the scheduled deadlines are met. The Committee recommends that the Council consider making this adjustment to the analysis since there appears to be no current or near-term inshore-offshore allocation problem with this fishery.

Schedule for Inshore-Offshore Allocation Analysis

August 17	Send out comprehensive economic survey.
August 24	FPC meeting. Receive status report on economic survey, development of analytical models, and social impact assessment.
September 25-28	Council meeting. Receive status report.
Late September	Complete development of economic models. Finalize industry projection data base.
October 6	Economic survey responses due.
November 6	<ul style="list-style-type: none">• Finalize economic survey data base and industry sector profiles.• Begin 30-day public review in industry sector profiles and other model assumptions.• Perform trial runs of models.
December 6	<ul style="list-style-type: none">• Council meeting. Status report.• Perform final economic model runs. Draft economic analysis. Submit economic results to social impact assessment team. Draft biological analysis due.• Six indepth community profile due.
January 15-18	Council meeting. Preliminary review of analyses by Council family. Status report. Draft Social Impact Assessment due to review team.
February 8	Draft inshore-offshore amendment analysis due.
February 15	FPC meeting. Review draft.
March 8	Second draft amendment analysis due.
March 15	FPC meeting. Review second draft.
April 21-25	FPC and Council review. Approval to send out to public review.
May 10	Send amendment documents out to public review.
June 24	Public review period ends.
June 25-28	FPC and Council meeting. Final approval of amendments.
July	Submit to Secretarial review.
November	Secretarial review ends. Implementation.

Note: Scheduling of additional milestones, FPC meetings, and some adjustment of dates will likely occur during the year.

Summary Report

Fishery Planning Committee
August 24, 1990
Alaska Fisheries Science Center-Montlake
Seattle, Washington

I. INTRODUCTION

The meeting was convened at 9:00 a.m. by Chairman Joe Blum. Other members in attendance were Rick Lauber, Bob Alverson, Wally Pereyra, Ron Hegge, and Larry Cotter. Support staff in attendance were Clarence Pautzke, Steve Davis, and Jim Cornelius, NPFMC; Jay Ginter, Lew Queirolo, Rebecca Baldwin, Steve Freese, NMFS; Earl Krygier, ADFG; and Lisa Lindeman and Jon Pollard, NOAA-GC. There were also over 20 members of the public in attendance. The meeting was adjourned at 5:00 p.m.

II. INSHORE-OFFSHORE ALLOCATION

The Fishery Planning Committee (FPC) received a status report on the inshore-offshore allocation analysis. Steve Davis reported that the analytical team was on schedule with regard to the development of the economic models, collection of the social impact data, and the distribution of the comprehensive economic survey questionnaires.

John Petterson of Impact Assessment, Inc. (IAI) presented a review of the social impact analysis (SIA) design and methodology. Dr. Petterson reviewed the principles involved in performing a SIA and the constraints being applied to this particular analysis due to limited time and funds. The FPC reviewed the draft community profiles prepared from a literature review and noted that the descriptions don't reflect the current status of many of the communities. It was noted that much of the data is several years old, illustrating the need to visit these communities to gather information to more accurately describe current conditions. While IAI plans on gathering the data, limited funds and time will prevent a comprehensive update of the literature.

FPC members also commented that the use of Bellingham as a substitute community for Seattle/Ballard was not desirable given that the offshore industry was based in Seattle. Attempts should be made to use Seattle as one of the baseline communities. Dr. Petterson described the problems with including Seattle in the baseline data base but suggested that the analysis attempt to describe potential social impacts on Ballard. The FPC agreed to this suggestion. Dr. Petterson also recommended that the FPC and Council endorse a 10-year horizon for purposes of describing the social/health concerns in the SIA. A longer time horizon is needed since social impacts caused by any inshore/offshore regulatory action may not appear immediately. The FPC agreed to make this recommendation to the Council.

The Committee also agreed to recommend that the Council consider sending a letter to the Secretary of Commerce requesting additional funds to perform social impact analyses. The committee anticipates that SIAs will become more critical to Council decisionmaking and additional funds are necessary to obtain the required expertise for thorough and complete analysis of fishery management issues.

Steve Davis reviewed the current inshore/offshore work schedule of the analytical team. Mr. Davis noted that the scheduled due date of April 1991 for a draft public review package is only possible if the comprehensive survey results can be key punched and proofed in a one-month period, the analytical team remains at full strength, and that there are no new alternatives or issues to be analyzed during the winter months. Any of these factors could create delays in the analysis.

The FPC questioned whether Pacific cod should remain a part of the inshore-offshore amendment. Deletion of the Bering Sea Pacific cod fishery in particular may simplify the analysis and assure that the scheduled deadlines are met. The committee recommends that the Council consider making this adjustment to the analysis since there appears to be no current or near-term inshore-offshore allocation problem with this fishery.

The committee also recommends that the Council, Advisory Panel, and Scientific and Statistical Committee be included in review of draft analyses as early in the work schedule as practicable.

III. MORATORIUM

Steve Davis reviewed the status of the Council's moratorium notice and a draft discussion paper, prepared with Jay Ginter, which highlights moratorium issues and decisions requiring Council attention prior to analysis. A final copy of the discussion paper will be provided to the Council at its September meeting. Mr. Davis and Mr. Alverson also reviewed the comments gathered at the August 23 scoping meeting. Most of the issues mentioned by the public for evaluation in the analysis were already highlighted in the staff discussion paper (e.g. transferability between fisheries, replacement of lost vessels, vessel conversion, etc.). New issues included current activities by the U.S. trade representative which some fear could lead to partial repeal of the Anti-Reflagging Act, resulting in significant number of foreign vessels moving to Alaskan fisheries. Another issue is the potential impact on Pacific coast fisheries resulting from a inshore/offshore decision off Alaska. These and other issues raised during the scoping session period will be examined in the moratorium analysis.

Mr. Davis reviewed the moratorium work schedule approved by the FPC at its May 25 meeting. The schedule shows that the Council could take final action on moratorium amendments as early as the June 1991 meeting. However, the work schedule was originally prepared on the assumption that the Council would develop and publish a notice of intent in July 1990, conduct scoping sessions by August, and be prepared to finalize moratorium options by its September 1990 meeting. Since the Council didn't complete its notice until August, and with the scoping period ending on September 28, the Council will not be able to finalize its moratorium options until its December or January meetings. With this delay, it may be difficult to complete a public review package by April.

The work schedule also assumes that adequate support staff is available. The FPC was informed of several personnel changes and other budgetary constraints which could affect this work schedule. The FPC and Council will be kept fully informed on the staffing situation.

IV. REVIEW OF OTHER SCHEDULED COUNCIL PROJECTS, ACTIONS, AND WORK REQUIREMENTS

Steve Davis reviewed a list of Council projects and other mandatory activities that could affect the work schedules. The September Council meeting initiates the Council's annual review of the groundfish status of stocks, the determination of acceptable biological catch figures (ABCs), the setting of 1991 quotas (TACs) and apportionments to domestic and joint venture fisheries, and the setting of prohibited species catch limits (PSC) for various fisheries and gear types. This process requires approximately four months and substantial staff effort in evaluating stock assessment surveys and preparing the necessary background documents.

The September meeting also begins the Council's annual amendment cycle, where management proposals are reviewed and 1991 amendment packages outlined. Approximately 41 groundfish proposals and 12 halibut proposals were received for the upcoming cycle. Depending on the number of proposals selected by the Council for development and analysis, and the complexity of the issues, staffing requirements could be substantial if the amendments are to remain on schedule.

The Council also has made commitments to address several other problems on particular work schedules. These include development of a more comprehensive bycatch management program, development of limited access systems for sablefish, halibut, groundfish, and crab fisheries; and the inshore/offshore allocation amendment and moratorium analyses. All of these Council projects will require substantial staff effort and time to remain on their work schedules.

At the request of the Council, the FPC attempted to prioritize these projects given current time, staff, and funding constraints. There was unanimous agreement that the highest Council priority should be placed on the annual status of stocks review and the setting of ABCs, TACS, and PSCs. No consensus could be reached on prioritization of the remaining projects/activities. Some committee members recommend that inshore/offshore be given the highest priority with moratorium, bycatch management, and amendments following, in that order. Others support the moratorium as the highest priority following the ABC/TAC/PSC activity. Other members support the placement of inshore-offshore and the moratorium on the same or identical work schedule.

V. DONUT HOLE FISHERY POLICY

With certain EEZ fisheries closing earlier in the year, questions have been raised before the Council whether the United States should develop a management policy for U.S. vessels choosing to fish in the international waters of the Bering Sea (a.k.a. the Donut Hole). Some FPC members believe that the U.S. should not allow American vessels to work in the Donut area at the same time the U.S. government is emphasizing with the U.S.S.R. the importance of this area to fisheries management and how fishing in the Donut could be detrimental to both U.S. and U.S.S.R. stocks.

Other members believe that it is premature to develop restrictions on U.S. vessels. It is conceivable that future management of the Donut area could be determined through international agreements. Therefore, allowing American vessels to establish a fishing history in this area could be important to the U.S. industry.

Several management options were identified, including a prohibition on fishing in the Donut by U.S. vessels and the establishment of a Bering Sea TAC which would include the harvest of groundfish resources in the Donut area by U.S. vessels.

The committee recognized that some of these options are probably long-term answers to the Donut question. For the short term, the FPC developed a draft policy statement for the Council which states that, **"It is the policy of the North Pacific Fishery Management Council to support no fishing in the Donut area."** The statement recognizes the inability to regulate foreign vessels in the Donut, the ongoing international discussions, and the current U.S. government position which has the support of most fishing industry members.

Council staff was requested to draft a policy paper with alternatives for Council consideration at its September meeting. Staff was also requested to gather information on how other countries regulate their fisheries in the Donut.

VI. SABLEFISH MANAGEMENT

With the Council's recent tabling of the sablefish IFQ management system, the FPC requested that traditional open access management proposals submitted for sablefish during the 1988-1990 amendment cycles be included in the 1991 proposal package for Council family review. Concerns were raised that elements of the sablefish industry may not have submitted proposals this year having assumed the Council would take final action on a new management system.

The Use of Anthropological Knowledge Under NEPA

JAMES P. BOGGS

The National Environmental Policy Act of 1969 (NEPA) legally mandates extensive use of social science knowledge in governmental decision-making. In so doing, it creates a context for considering problems of social knowledge utilization. Social scientists and policy researchers, while increasingly noting the use (or non-use) of social science in policy, tend to overlook the uncommon dimension to this issue resulting from NEPA's legal mandate for professional social science research. This paper reviews some existing concepts of knowledge utilization, relates them to recent work in applied anthropology, and develops the theme of NEPA's importance as a law mandating social knowledge use. It also suggests that NEPA's legal mandate creates significant opportunities to extend a more effective professional identity for applied anthropology. First, anthropologists working in this area can become familiar with the relevant law and legal scholarship, and contribute to its development. Second, in practice under NEPA, they then have the opportunity to exercise an additional dimension of professional judgment regarding research problem definition with reference to this law, rather than with reference only to a client's perceived problem or ideology, or on personal moral grounds.

Key words: knowledge utilization, environmental law, social impact assessment.

THE NATIONAL ENVIRONMENTAL POLICY ACT of 1969 (NEPA)¹ established a distinctive context for the direct use of applied anthropological knowledge by setting up a process in which public agencies prepare an "environmental impact statement" (EIS) each time they propose to initiate an action or a program, or to make a permitting decision that might significantly affect the environment. The EIS consists of an interdisciplinary study of baseline conditions in the affected area, and must also assess possible impacts and consider policy alternatives. While possible social impacts by themselves do not usually trigger an EIS (see, e.g., Volume 40, Chapter V, Article 1500.8 of The Code of Federal Regulations [40 C.F.R. 1500.8] [1988]), they must be reviewed along with possible impacts to the natural environment in every EIS that is prepared.

The EIS is made available to agency decision makers and to the public. In this way concerned people, including members of communities that will be directly affected by the agency decision, are able to assess many of the environmental and socio-cultural factors that the agency itself must consider in making

its decision. Members of "the public" also make their assessments part of the record of decision of the agency through public hearings, in written comments to the agency, and not infrequently in lawsuits.

How does the process actually work? In principle, the availability of better scientific information will lead to more environmentally and socially conscious decisions. Further, courts have established that agency decision-makers must take the EIS information into account (although obviously defining and enforcing such rulings present major problems). In practice, however, the relationships between scientific knowledge and practice are much more complex.

In this paper, I will review some varying interpretations of the relationships between social science knowledge and policy action, relating these general arguments to specific considerations in applied anthropology as I go in order to provide a backdrop for considering the uses of anthropological knowledge in the NEPA context. In so doing, I will suggest that policy analysts and applied anthropologists alike have tended to overlook the obvious: namely, that NEPA provides a distinctive opportunity for considering the uses of social knowledge in policy because of its legal mandate that relevant social and cultural knowledge must be obtained, and must be made part of the policy processes defined in the Act.

The Uses of Social Knowledge

Social scientists are apt to disagree about matters of theory: "(t)he social sciences have never had the kind of standardized textbook education and puzzle-solving, normal research that Thomas Kuhn describes as characteristic of the mature natural

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sciences" (Jennings 1983:3). In the natural sciences improved knowledge may lead to conceptual convergence, whereas in the social sciences it tends rather to result ". . . in a richer, more diverse picture of things" (Cohen and Weiss 1977:68). On the other hand:

One point of agreement I find among purveyors of social knowledge and their potential consumers—policymakers—is that the relationship between social knowledge and social policy is unsatisfactory. Intelligent use of the best social knowledge is a rarity if it exists at all (Murray 1983:307).

The claim that social knowledge is rarely used intelligently is open to discussion, but it is the key question of *why* the interaction of social science with policy seems so troubled that we will explore here as a prelude to considering the uses of anthropological knowledge under NEPA. Murray (1983) classifies explanations for the science/policy tangle based on the analyst's assumptions regarding the nature of scientific knowledge (Weiss 1977a, and Rein 1983, suggest alternative frameworks). Murray's first category of explanations rests on the assumption that social knowledge is both reliable and potentially relevant (Murray 1983:308–9). Given this assumption one might either blame policy makers for not making better use of available knowledge, casting them "fools, knaves, or both," or alternatively fault social scientists ". . . whose failings in political acuity, communication abilities, and perhaps a dab of professional snobbery and insecurity lead them to present the information at the wrong time in the wrong form to the wrong person" (Murray 1983:308).

Murray dismisses the "fools/knave" position as one to which no one admits publicly, although it probably characterizes ". . . a large number of social scientists who have only a passing familiarity with policymaking" (1983:308). Indeed, recent in-house critiques of anthropology as a policy science more often elaborate some version of the "blame the analyst" theme. Weaver (1985:101), for example, states that ". . . most anthropologists have been uninterested and ineffective in relating (their relevant) experiences to the political decision-making process." "Anthropologists are very poor at communicating about their work . . ." (Weaver 1985:101). "Anthropologists have not presented their findings in a manner . . . usable by other disciplines and by policy makers" (Weaver 1985:102).

I agree with Chambers (1987:319) who contends that ". . . some of the current assessments seem overly critical . . ." of anthropology. Additionally, the alternative explanation within the assumption that social knowledge is reliable and useful (what Murray calls the "fools/knave" position) is often rather summarily dismissed. It may be helpful to reconsider that perhaps agency administrators, legislators, and the judiciary do not always in fact use social knowledge as well as they might, given all of its limitations, any more than social scientists always develop and present it as well as they might.² Finally, although a certain amount of mutual annoyance between social scientists and administrators seems inevitable, and is perhaps even healthy, the questions are more complex than either of the two alternatives under review allow. The underlying issues extend beyond anthropology to all social science use, and require analysis rather than merely critiques of one or another of the participants in knowledge use situations.

A second general view is that much basic social knowledge is valid, but in and of itself is inherently irrelevant to policy. "Policymakers are not typically interested in nuanced studies

of the interplay between social structure and social character; they want to know what causes what and especially what the pressure points in a system are. . . . They want to know how actual—not ideal—systems operate" (Murray 1983:309). Rein (1983:242) neatly summarizes one implication of this view: "attention to science without practice leads to inaction." Murray notes that Gouldner (1957) and others of this opinion often conclude that the applied fields should "establish themselves as quasi-independent professions. . . ." whose practitioners "receive specialized training to avoid being seduced into the standard disciplinary values of elegant theory apart from utility" (Murray 1983:309–310).

The "seduction" of the practical by the theoretical seems not to be an abstract concern for applied anthropology. Schensul and Schensul (1978:124–6) document the history of those who tried to develop more applied or normative directions within the field only to find themselves seduced by anthropology's dominant academic orientation. (This phenomenon should be worthy of some good sociology or anthropology of science in its own right.)

One of the few instances of quantitative empirical work on the policy utility of different types of social knowledge supports the view that academic social science tends not to be used in a policy context. Van de Vall and Bolas (1980) find that "policy research" differs from applied social science research in so far as the latter attempts simply to apply the concepts of basic social science.³ Real world decisions usually require more immediate, ideographic, and closely textured accounts; it is partly on these grounds that Jennings (1983) suggests the use of interpretive social science (e.g., Geertz 1973) for policy analysis, as an alternative to the positivist approaches usually employed.

Chambers offers a meta-theoretical suggestion, adding to Gouldner's and Jennings' suggested responses to the issue at hand. In anthropology, Chambers (1987:309) observes, ". . . application is almost inevitably viewed as a partial and dependent expression of discipline. . . ." He suggests that instead applied anthropology might be defined as a field of inquiry in its own right, whose concern is ". . . with the relationships between anthropological knowledge and the uses of that knowledge in the world beyond anthropology" (1987:309).

The notion of developing a policy-oriented social science as a *practice*, distinct from either applied or basic social science as a *discipline*, merits further consideration. In this regard, social impact assessment (SIA), the interdisciplinary field that is evolving in response to the social science requirements in NEPA and in other subsequent environmental law, appears to be developing as just such a practice focused on the production of SIA reports for inclusion in environmental impact statements. This practice is noticeably distinct from the "discipline" of SIA, which tends to be more nomothetic and methodological in orientation (Boggs 1989a:13–16). Far from resolving any of the problems being reviewed here, however, this development embodies all of them with a vengeance (Freudenburg 1986; Meidinger and Schnaiberg 1980). More generally, Rein (1983; Ch. 8) offers a perspective on "practice worries," while MacRae (1976: 1986:162) suggests that interdisciplinary "technical communities," supplementing the invisible colleges of disciplinary research, might center their work around causal models of policy systems oriented to applications.

The second variant of the view that social science knowledge is valid but not particularly useful is that it not only does not,

but also should not, have much use in public policy (Murray 1983:310). Murray illustrates this variant with Lindblom and Cohen's (1979) work, which praises ordinary knowledge and interactive problem solving, a point also taken by Weiss (1983: 222, 241). There may be some confusion between "ought" and "is" in this position, a possibility Murray (1983:310) also hints at when he sees here "... a distillation of years of experience dealing with policy and policymakers." I have not yet come across any well developed representatives of this view in the anthropological literature. We may not yet have enough experience in this area to distill.

A third major position on the question of why policy makers and social scientists have tended not to get along is that social knowledge is neither reliable nor useful. Murray (1983:311) illustrates this position with an article by Kenneth Gergen (1973), which in turn relies on a well known work by Peter Winch (1958) in the philosophy of social science. Although Murray criticizes this view, the one he himself espouses is a variant of it. He believes that the chief obstacle to the policy relevance of social science "... is the sheer complexity of human individual and social life" (1983:311). An interesting conceptual shift in perspective on this point is to be found in Bronowski (1977:161):

... we are handicapped by a shortcoming of the scientific method. We find it hard to analyze culture and society because they are nothing but activities. For we are all, as scientists, thing-directed; the method of the natural sciences (biological as well as physical) is to manipulate things which persist through time and which, if they change, change into other things. This search for things as the units of science may be slackening. ... But meanwhile we lack the conceptual habits to handle the units of behavior, the fluent actions and innovations, from which social conduct is compounded.

Murray views one extreme form of the "neither valid nor useful" position as the result of "... an attack on a radically ahistorical and clumsy variant of positivism" (1983:311). While there are elements in both basic and applied anthropology that may deserve such attack, I find little in the literature of applied anthropology that expresses such a viewpoint. The views that anthropological knowledge may not and in fact should not be useful, or might be neither valid nor useful, are not prominent in a discipline that is trying to establish its place in the applied social science and policy science arenas. While I do not fully agree with either of the positions under consideration either, it would be refreshing to come across competent critiques of applied anthropology along these lines.

Murray (1983:312) himself adopts a variant of the tenet that social knowledge is neither reliable nor useful—that in fact "... for the most part, it is unreliable and hence cannot be useful." Blame lies neither with practitioners nor with their clients. Instead, there are powerful contingent obstacles to a reliable, general social knowledge. Murray (1983:312) concludes that social knowledge is unreliable

... not because social scientists are less gifted or lazier than their natural science counterparts but because the questions posed to them, given the inherent complexities of human social life, are fundamentally more difficult and less tractable than typical questions in the natural sciences.

I am not sure that the natural or biological sciences have an easier time when dealing for example, with ecological problems on a whole systems level. Nevertheless, the point is still

well taken with respect to the social sciences. The obvious question, then, is what to do with partial knowledge, and it is to this question Murray turns in the remainder of his article.

We are going to leave this inquiry for the moment, however, in order to pick up a couple of different threads that lead into the issue from somewhat different directions. The first one comes from work by Carol Weiss and others. Weiss (1983:216) notes that by 1970 the optimism that had accompanied various earlier stages of attempts to apply social science knowledge to policy had begun to erode. Social scientists then "... turned from pontificating about what the proper relationship (between 'knowledge' and 'action') should be, and began empirical investigations of the influence that research actually has. ..." (Weiss 1983:218-19).⁴

Results of such empirical studies "... tend to affirm that immediate and direct linkages between study results and policy decisions are relatively rare" (Weiss 1983:219). Instead, however, policy makers are often immensely influenced by general theoretical or conceptual contributions from basic social science. Biderman (1970:225-6), followed by Weiss (1977a, 1983:220) have called this the "enlightenment function" of social science research. This issue is also addressed by Chambers (1987:313), Fleuret (1981:98), and Murray (1983:313, 315).

One obvious conclusion from this line of reasoning is that the best "applied anthropology" is basic anthropology: simply continuing the basic empirical and theoretical development of the field. Maybe we should forget about "applying" anything, set aside our ambitions to contribute to policy, and just get on with being anthropologists. At most, we might do our basic work in areas that could bear on current social problems, in the tradition, for instance, of Franz Boaz or Margaret Mead, as described by Kimball (1978:283-4) and Partridge and Eddy (1978:12-13). Weiss (1983:241) in fact draws a similar, if not so overstated, moral:

One suggestion to those who propose, fund, and do policy-relevant research is not to spend a heavy share of research money and time on studies designed to answer immediate policy problems. ... To do such work usefully usually requires accepting the conceptual and practical constraints of government sponsors—that is, limiting research to the variables that the funding bureau has the authority to manipulate and adopting the premises that currently guide the agency's action. ... we may serve government better by broadening the scope of the research we do and contributing more critical perspectives on agency activities.

Weiss' implicit strategy for dealing with the policy-oriented social scientist's twin burdens of partial knowledge in a vast and imperfect world, and frequently strained relations with sponsors, is simply to step back a pace or two, look carefully and empirically at how our knowledge seems in fact to inform policy, and for the time being at least stop promising more than we can deliver. The above passage also suggests that we may better serve society, and even more immediately government itself, in what I will identify below as a professional role, rather than in a technical role.

The Use of Anthropological Knowledge Under NEPA

In the "Introduction" above, I alleged that NEPA provides a very good opportunity in which to consider the uses of social knowledge. My suggestions here have been elaborated else-

where (Boggs 1989a, 1989b), but for purposes of the discussion at hand, we may begin with a story of applied anthropology recounted by Elizabeth Colson.

Colson's (1985:192-3) story is of anthropologists working for the Rhodes-Livingstone Institute in Northern Rhodesia in the late 1930s and early 1940s. The story is particularly appropriate because the aims of that agency defined a program very much like that of social impact assessment (SIA) under NEPA. These aims were "to analyze scientifically the social life of modern man, to make the information available to responsible governments in the area, and to disseminate this accurate information as widely as possible to the public (Colson 1985:192). The underlying assumption (also seemingly like that of NEPA) "... was that accurate information would make for good policy and good policy would lead to right action" (1985:192). The experience, however, was very different.

One early study produced by the Institute's director, and "backed by a wealth of evidence," (Colson 1985:192) concluded that existing government policies "... would lead to increasing rural hunger and recurrent urban riots." Not surprisingly, rather than responding with more enlightened policies the government suppressed the study and forced its author to resign. Chickens will come home to roost: South Africa's subsequent history established the accuracy of the predictions. What had proved unwarranted, however, was the analyst's underlying assumption that good information would "lead to right action" (Colson 1985:192). Colson pinpoints the weakness of the program when she observes that the "... anthropologist failed to recognize ... that he was operating in a charged political arena where the accuracy of information would be assessed by the degree to which it supported established positions" (1985:192).⁵

The above parable contains several pertinent lessons. First, it introduces a further reason, not touched in the preceding survey of issues in the uses of social knowledge, why the relationship between social knowledge and social action becomes strained. The information itself, *precisely because it is reliable and relevant*, may be what Colson (1985:195) calls "uncomfortable knowledge." In this regard, she observes (1985:193) that

It is a common charge that the social sciences, including anthropology, are unable to produce results in the form of generalizable principles that can be applied to particular cases. In fact, this has not been our primary problem. . . . Our problem arises rather from the fact that our research challenges what others want to believe; our problem lies in obtaining an audience that will listen when the information is not palatable.

In the present context, we may also tease a second more implicit lesson out of Colson's parable. NEPA itself is often criticized for embodying in law the same naive misunderstandings of the realities governing uses of scientific knowledge in policy that are illustrated in the story of the Rhodes-Livingstone Institute. In fact, some problems with implementing NEPA do look very much like the problems documented by Colson in the above example (Boggs 1978, 1988; Freudenburg and Keating 1985; Jorgensen 1981; West 1975).

Even more instructive than the similarities of Colson's example to the NEPA program, however, is how it differs. Quite simply, the South African program lacked the force of law. No statute mandated the gathering of the data. The data and analysis were not, under legal mandate, disseminated to interested publics (prominently including the people who comprised the subjects of the study), nor was there a legal require-

ment for "good faith" consideration by the government agencies with legitimate authority to act on the situation. On the other hand, studies of the quality described by Colson are not currently being produced under NEPA's mandate.

In any event, the preceding considerations merit further reflection by applied anthropologists and other social scientists interested in the policy process. As Freudenburg (1986:469) notes, the NEPA model "... may deserve greater attention in the future from those who are concerned with the role of science in societal decision-making." I will risk a further prediction in this regard: namely, we will find that problems of *effective implementation of law* in this area differ in significant respects from problems relating to *effective utilization of social research knowledge voluntarily contracted by governmental agencies*.⁶ In what follows I will further define and illustrate some of the unique aspects of applied social science under NEPA.

NEPA and SIA have arrived on the scene at a strategic moment in the broad historical sweep of social science thought. As Jennings (1983:4) observes, "... the epistemological consensus centering around the tenets of logical positivism and empiricism has itself been shaken almost to the point of nervous collapse." Whether one blames social scientists for assuming moral authority in the policy arena based on positivist premises (e.g., Weiss 1983:221-22), or the political community for having improperly transferred political authority to the scientific community (Rein and White 1977:136), has become quite beside the point. The implicit legacies of positivism that justify the transfer on any grounds have become widely suspect within the social science community itself (Chambers 1987, Freudenburg 1986, Jennings 1983, Meidinger and Schnaiburg 1980, Murray 1983).

As a result of the above developments, it is no longer tenable to assume "... a direct relationship between knowledge and its uses—to assume, in other words, that 'good' knowledge will find 'good' use without much help on our part. . . ." (Chambers 1987:322). What previously had been taken as a *point of connection* (i.e., an assumed direct link between knowledge and action) becomes instead the very definition of the *space* within which inquiry must be pursued. Chambers (1987:322), in this regard, suggests that

... applied anthropology ought to be expressed as a scholarly, critical, and reasonably objective concern for what happens when our knowledge enters the realm of practice. . . . The fundamental intellectual and theoretical problem that distinguishes the field is the need for critical knowledge that explores the spaces between what we know and what can be done with that knowledge.

We enter those spaces, as they are defined in the NEPA process, with clearer recognition of the theory laden and value laden qualities of all applied and policy research and practice. Thus, "... every endeavor in anthropology is a study in professional ethics" (Chambers 1987:328). (See also Weiss 1977b: 10.) This is "uncomfortable" knowledge indeed. This discomfort affects social scientists perhaps more profoundly than politicians and administrators, who have been accustomed to working in the realm of values all along (Rein and White 1977). Yet the very discomfort itself provides fertile grounds for growth of the profession.

In the context of SIA, these rather general insights contain peculiarly political implications. NEPA legally mandates SIA as a part of its broader environmental impact statement (EIS)

requirement, and now so do a number of other subsequent laws. As a result, SIA has become an integral part of what Schieber (1987:107-110) calls "a fundamentally new litigative order" (Boggs 1989a:1). NEPA's critics may want to reflect in this regard that the instance of applied anthropology in South Africa described by Colson (see above) did not effectively take place within a relevant litigative order of any kind.⁷ As Freudenburg and Keating (1982:77) note, NEPA changed the rules of the game. Some brief examples may help bring the above somewhat general points more down to earth.

In our own work for Indian tribes in southeastern Montana who faced large scale natural resource development in the late 1960s and early 1970s (Boggs 1982, Nordstrom, et al. 1977) we found that tribes may not have the same definition of "the impact problem" as the agencies who have statutory authority to prepare impact statements. The differences are so profound that they define quite different questions with which SIA might work. In brief, agencies tend to focus on impacts in the social services and public facilities sector that are relatively easy to quantify, and that can be "mitigated" by providing money and jobs to the local communities. Tribes, by contrast, often focus on more basic issues of social disruption, cultural survival, political and jurisdictional integrity, and religious concerns. Whereas agencies often want to aggregate quantitative impacts over a large area or population, tribes will more usually want to disaggregate impacts and to give greater emphasis to qualitative issues.

Many Indian tribal concerns cannot be mitigated with our present state of social knowledge. They thus make the agency's job much more difficult. If the agency takes the "hard look" at possible impacts that NEPA mandates, tribal concerns will tend to shift the scope of agency legal decision-making responsibility from the area of project design to that of whether the project should even be constructed. Under NEPA, the agency still retains its authority to balance tribal concerns against potential benefits of the project to other groups; but the nature of the decision becomes more difficult *and* more politically sensitive.⁸

In one sense, however, creating such difficulties as those described above is precisely the point. NEPA was written to ensure that these kinds of complex and difficult issues, which we have tended to ignore (often for understandable reasons), shall nevertheless now be taken more fairly into account. In changing the rules of the game, however, NEPA confronts not only government agencies, but also the professions it draws upon, including anthropology, with new and difficult challenges.

Within anthropology as a discipline, selection of variables to study can be a straightforward methodological issue. Under NEPA, as the present discussion illustrates, the same question of which variables get studied, and therefore get to be part of the agency's record of decision, can also become a profoundly political issue. I think it is a mistake to conclude, however, that the question becomes any less one of professional judgment on that account. On the contrary, this is rather the very circumstance that challenges us to craft a professional response.

One alternative thoughtfully developed by Freudenburg and Keating (1985:594ff), and implicit in some of my own work, is to adopt an advocacy role much as attorneys do. The risk in doing so is that of further defining our role in the policy process as technicians rather than as professionals. There will be a need and a place for advocacy work, but I see it as a response to

specific problems and needs rather than as the main thrust of professional development.

Crafting a professional role for social science under NEPA requires grounding the profession within the basic social science disciplines. Practitioners actually need closer and more effective and open links with basic social science, rather than to sever them further. At the same time, however, the practitioner role is necessarily interdisciplinary and eclectic. In my view, a professional practice needs to be especially familiar with the relevant law and legal scholarship, and begin actively contributing to its development relating to uses of social science under NEPA. The essence of professional (as opposed to technical) judgment in this area is translating the applicable *legal mandates* into operational social science terms in specific real-world instances. There is some evidence that we may find support within the legal profession, and even in the courts, for taking this direction.

The critical role of applicable NEPA law in professional social science judgment in the conduct of SIA may be illustrated in the following examples. In the early 1980s the Department of the Interior through the Bureau of Land Management (BLM), its lead agency for this program, prepared an EIS for additional coal sales in southeastern Montana. The social impact analysis seemingly ignored the Northern Cheyenne tribe. The tribe sued. In its legal defense BLM argued that it had simply made a technical decision, for purposes of its analysis, to consider tribal members in the same way as it considered other residents of the affected area. In this it followed the common agency preference, noted above, for aggregating impact data. It would be difficult to argue this point in court on purely *technical* grounds, the more so because it has by now become fairly standard in SIA to aggregate effects in just this way (Meidinger and Schnaiberg 1980:521-523). Particularly in light of earlier social science work done in the southwestern Montana coal region,⁹ however, neither the BLM's original decision not to consider the cultural, social, political and economic distinctiveness of the Northern Cheyenne in a major SIA, nor the agency's legal defense when this decision was challenged, could convincingly be vindicated as *professional* judgments under NEPA.

The reviewing court still faced a difficult question. Usually courts will not overrule agencies in matters of technical discretion. In this instance, however (in part dodging the substantive issue by finding that the agency had in fact not made the judgment it claimed), the court ruled in favor of the tribe (Boggs 1988, Freudenburg 1986:455, Freudenburg and Keating 1985:592). BLM (U.S. Bureau of Land Management 1989) recently released a substantial sociocultural impacts analysis of the Northern Cheyenne and Crow, prepared in response to a court order in the case.

In another instance, in work for the Forest County Potawatomi tribe in Wisconsin, it became apparent that a study commissioned by the proponent of a large mining venture, and drawn on by the state agency in charge of the EIS project, attempted to achieve "value neutrality" by picking and choosing and reporting the data so that "plus impacts" and "minus impacts" to local communities would appear about equal. Methodologically sophisticated social scientists had prepared the report, which fairly bristled with statistics and computer printouts.¹⁰

Testimony drafted for the tribe critiqued the RPC report explaining that the aim of social science under NEPA is not to orchestrate the analysis so that each harmful impact becomes

perfectly balanced by a corresponding benefit, in order to avoid seeming to favor one side over the other (Boggs 1986:7-8). I think that NEPA actually calls for *explicit* professional judgments that translate NEPA's goals into operational social science terms, and research that aims for scientific validity, reliability, and relevance to the decision-making process. In the real world, a project may favor some segments of the population more than others. NEPA's policy, as well as its procedural mandates, indicate that it was enacted so that decision makers might be apprised of such impacts.

It is important to note that in such contexts NEPA does not ask the applied anthropologist to mediate or reconcile different values.¹¹ It poses the prior and even more subtle challenge of understanding and communicating the different values involved, in terms of that very concrete situation in which the clash of values is being played out. It may become necessary to explicate values of the hegemonic society as well as of the Indian tribe or local community.¹² As Biderman notes, for instance, "(s)ocial indicators cannot have enlightenment functions apart from the theories into which they are assimilated by those they seek to enlighten" (1970:229). In summary,

... theory itself cannot be divorced from practice or policy and is simply another expression of it. The study of utilization (of social science knowledge—JPB) seeks to elucidate the interplay of theory and policy because they provide the framework in which facts are gathered. The challenge is not linking research to policy, but uncovering the latent policies that organize the empirical research carried out by social science . . . (Rein 1983:245).

Conclusion

Just as Indian tribes will view their own situation differently than non-Indian governmental agencies will view it, so will social scientists view the nature of their profession differently than the agencies for whom they often work. It is also clear from the preceding review that social scientists view the nature of their work in the world differently now than they did even a few years ago. In all of these instances, the different points of view translate into different understandings of "the problem," which in turn defines different sets of facts as relevant, and in some sense even as true. The course of emergence of applied social science as a profession working under legal mandate depends critically on how we choose to define that "problem."

Earlier I surveyed a number of reasons put forward to account for difficulties in the relationship between applied or policy social science and public action. They all contribute to our understanding of the situation. Here I will put yet another into the hopper for consideration. One cause for the malaise (if that is not too strong a term) afflicting applied social science originates in the absence of an effectively institutionalized professional identity as *applied science*, and in the absence of generally accepted frameworks for making and evaluating professional judgments.

NEPA (and more broadly that entire class of recent environmental review law of which it is the first and best-known instance) may provide opportunities to define just such a professional identity. It does so by creating a legally mandated role for social science within an institutional and policy framework that is being put in place by the Act itself. In closing, I will briefly elaborate this possibility.

By leaving positivist conceits and illusions behind, we also

walk away from "pure" or "objective" science as a sufficient professional guide for how to develop and use scientific knowledge in real-world applications. Choosing a focus, a topic, variables for study, methodology (e.g., type and amount of field work), and audiences for the final write-ups, all involve professional decision factors that nevertheless lie outside of purely scientific considerations. Discipline-based scientific values are sound (Partridge and Eddy 1978:43). They are also more contingent than previous dominant positivist orientations allowed. We have learned to ". . . doubt the omniscience of science in human affairs" (Price 1978:80). The question posed here is: what professional base do we have available, then, for making the required judgments?

The first, and currently probably the principal, alternative is for the social science practitioner to adopt a technical role. I take the difference between a technical role and a professional one to be that the technician plies his or her craft on a problem that by and large remains defined within the client's own framework of values and perceptions.¹³ The professional's task, by contrast, is to redefine the client's problem within different (and presumably broader) frames of reference. Professional judgment consists in part in choosing the appropriate frame(s) of reference, within the knowledge base of the profession. A doctor exemplifies this role when he or she listens to a patient describe a symptom. Exercising professional judgment, however, requires a frame of reference *sufficient to the task at hand*. Lacking that, the applicable scientific considerations become reduced to technical issues within the client's frame of reference, and the risk of becoming "mere technicians," long noted by critics of non-academic anthropological practice (Chambers 1987:325), is real.

The alternative to serving as social technician is usually to make the necessary choices on moral grounds. It is an important insight that all of our choices and judgments within a policy arena have moral dimensions. As Murray (1983:317) notes, the timing of a study, its ". . . design, the variables chosen to be measured, and the operational definitions are all likely to carry moral freight, irrespective of the cleanness of the scientific design and analysis."

While the preceding is true, making the required choices *only* on moral grounds is a highly individual matter. A wide variety of moral rationales is available for making such decisions. In practice, this choice can collapse into the first, technically oriented alternative, as we either select groups to work for with ideologies similar to our own, or put our moral reservations aside to work for those who will pay us.¹⁴ Ethical considerations need to be part of all professional judgment, but they do not circumscribe it.

The suggestion, then, is that NEPA as law, and the policy context being set in place to implement it, provide a framework, in just the areas where pure science alone cannot provide it, for making the kinds of professional judgments that are required. The above examples regarding the Northern Cheyenne lawsuit, and the SIA report on the Potawatomi, were chosen to illustrate this point. The judgments described there were not only technical judgments, because they did not define the uses of science only with reference to a client's felt need or ideological framework. Nor were they only moral judgments regarding the uses of science in those situations. Rather, they viewed the uses of science also in reference to NEPA's policy statement and procedural mandate.

Professional judgment in the above sense requires at least

some grounding in both social science *and* in the relevant law and legal scholarship. Little if any work to date explicitly interprets anthropological knowledge in light of NEPA law, nor attempts to understand what the law means in light of anthropological knowledge.¹⁵ Implicit criteria are, however, in place and operable for making such judgments and for evaluating our own work and that of colleagues. All of us working in this area probably make such judgments regularly. Professional development in this area will come as we ground our practice more explicitly in the applicable law and legal scholarship as well as in discipline based theory and methodology, and as we reflect on—and perhaps contribute to—that law from discipline based perspectives. Insights gained here may be extended beyond their context in environmental law to other legal and policy contexts for applied social science.

The suggestion offered above means, in MacRae's (1986:146) terms, to choose the larger political community that enacted those laws as one's "ultimate client," and to develop SIA as a "democratic information system" within that larger context. This is an ethical choice—an alternative ethical choice being to choose an agency or proponent business firm as the ultimate client and to develop SIA as a management tool. It also may represent, however, the most realistic framing of the actual decision making order set in place by NEPA, given the diverse goals and values of participants in the NEPA process and their frequent recourse to the courts to challenge agency decisions (Taylor 1984).

Finally, defining the role of applied social science under NEPA as suggested above might open new avenues to basic knowledge. For one, anthropologists will find occasion to contribute to and help shape the evolving body of environmental law (Boggs 1989a).¹⁶ Another possible contribution anthropologists might make to basic knowledge is more subtle and indirect.

Social scientists' contributions "... to the understanding of an issue must be partial both in the sense of being *incomplete* and of being *nonneutral* as between policy options" (Murray 1983:325). "Increased understanding," therefore, "will come not through the gradual emergence of clarity, as in a slide coming into focus, but through the artful play of insight against conflicting insight" (1983:327).

Our task under NEPA contributes to increased understanding (and anthropology may be uniquely positioned to make this contribution), when it helps Indian tribes and other local communities among whom we work to bring their own insights and perspectives artfully to play within the larger policy arena.

NOTES

¹ *The National Environmental Policy Act* (NEPA). P.L. 91-190 (1969), Codified at 42 U.S.C. 4321-4370 (1982). The text of the Act occurs at 42 U.S.C. 4331-4335, corresponding respectively to Sec. 101-105.

² See, e.g., Corwin and Louis (1982) on the concept of "policy vacuum" that may condition knowledge utilization within agencies. See also March (1982) on constraints to the uses of information in bureaucratic politics, Prewitt's more philosophical assessment, Bradbury's (1989) empirical study of social knowledge use under the Nuclear Waste Policy Act, and Colson's (1985) observations (which will be partially reviewed below). One-sided critiques of anthropology in the policy process are both unwarranted, and miss the mark when they

target failure of anthropologists to "adapt" to policy contexts as the cause of the difficulties we are considering. At least as important as simply adapting to policy contexts as they are found, is anthropologists' willingness confidently to develop and assert their own independent professional and ethical judgment in such contexts. With this caveat, the pragmatic suggestions accompanying critiques of anthropology as a policy science may be quite useful for anthropologists in the policy arena (Cochrane 1980, Weaver 1985).

³ Van de Vall and Bolas (1980:129) addressed the question of "... whether or not in social science research the traditional academic requirement of scholarly publication is identical with the professional requirement of research utilization." They found that "ideographic, sensitizing or grounding" concepts scored higher for usability than more abstract nomothetic approaches valued in scholarly research. Therefore (1980:133) "... the traditional view of social policy research as applied social science discipline research is not supported." Other empirical studies (Weiss and Bucuvalas 1980, Weiss 1983), however, find more use of basic research if the concept of "use" itself is broadened.

In related observations, Biderman (1970:224) notes the independence of academicians from concerns with "pragmatic specificity," while Davis (1975) documents a remarkable avoidance of policy implications, even in research on "policy relevant" topics. Nespore examines processes that "... act to distance theory from practice" (1989:326) within the very structures of bureaucratic research itself. MacRae (1986:154), addressing the issue of social theory for policy, finds that policy-relevant causal models "... do not emerge automatically from basic disciplinary research."

⁴ This is a relatively recent area of inquiry to which both basic and applied anthropology might make significant contributions. For more on this topic see Boggs (1989a). Rein (1983:236) cautions that the strong empirical bias in some of this work "... obscures the critical role of theory in gathering and analyzing the world of facts."

⁵ Carniol et al. (1981:55-6) recount a similar and more recent case, as does Boggs (1982). Burchell (1988:5) finds that the planning profession itself (which is neither a newcomer in the policy arena nor primarily academic in orientation) similarly struggles with "... the issue of continued divergence of practice and theory, as well as the inability of theory to provide a structure of action in a politically dominated decision arena."

⁶ For those who may be interested in pursuing these reflections, a substantial literature has accumulated on NEPA law and litigation (e.g., Mandelker 1984). A number of students of NEPA have also commented on aspects of its implementation, and several empirical studies have appeared. Taylor's (1984) is the most thoughtful and penetrating, although he is not alone in postulating a basic implementation process that relies on an informed and litigious environmental community, and courts who have proven willing to enforce NEPA's procedural mandate. Professor Lynton K. Caldwell, NEPA's principal author over two decades ago, has made a recent provocative assessment of the Act's successes and failures (Caldwell 1989).

As I have shown elsewhere (Boggs 1989a), the existing studies of NEPA implementation give the social science dimensions only the most cursory, if any, attention. Furthermore, much of the relevant legal scholarship and case law quite lacks sociological or anthropological perspective. Anthropologists might well contribute in these areas. Issues of social science use under NEPA, however, are beginning to receive increasing attention *within* the various social science disciplines—less in anthropology than in some other disciplines. But see, e.g., the general framework for considering "natural resource anthropology" proposed by Burton, Schoepfle and Miller (1986); Fricke's (1985) study of social science use in the U.S. Forest Service and the National Marine Fisheries Service; and commentary by Jorgensen (1981) as well as substantive SIA work by Jorgensen and colleagues as reported in published sources (Jorgensen 1981, 1984; Jorgensen et al. 1985). West (1975) made an early plea to anthropologists to become aware of both the challenges and opportunities NEPA presents to anthropology.

⁷ In response to my emphasis here on the legal foundation for SIA, an anonymous reviewer noted that the environmental review laws

creating this foundation originate in Congress. Therefore in addition to familiarizing ourselves with such law and contributing substantively to its development, we might also consider working more directly, presumably in a lobbying capacity, with Congress itself. This is a good point. Not only does Congress make laws, but complex relations between powerful congressional committees and executive agencies condition their implementation as well. Perhaps such concerns will gain emphasis within anthropology as the political sophistication of the profession grows—as may be expected from its expanding participation in public decision making under legal mandate.

⁴ See Boggs 1982 for further discussion. See also Meidinger and Schnaiberg (1980:525-6) and Friesema and Culhane (1976). Cohen and Weiss (1977), Nelkin (1974), Regens (1982), and Weiss (1977b:9-10) also found that increased scientific understanding in policy contexts may escalate the sense of complexity and conflict rather than providing authoritative answers around which agreement might coalesce. The Corps of Engineers instituted public participation programs in the early 1970s, expecting on the advice of its public relations experts to develop consensus for its projects. The agency cut back on such programs when it found that they did not resolve conflicts (Mazmanian and Nienaber 1979:166-177).

Lack of consensus persists in such cases both because large technological projects engender value conflicts that in principle are beyond the purview of science, and also because they raise questions that Weinberg (1972) calls "transcientific"—that is, questions that can be formulated in scientific terms but for which science cannot currently provide answers. Resolving such uncertainties, however, becomes itself a question of values. Wolf (1977:19) notes that such "... value conflict is not an undesirable condition where genuine differences and legitimate channels for expressing them exist." Providing such channels is an important function of the NEPA process.

⁹ See, e.g., Institute for Social Science Research (1984) (study of coal impacts on local non-Indian ranching communities), Nordstrom et al. (1977) (study of coal impacts on Northern Cheyenne reservation), Northern Cheyenne Tribe (1977) (air quality redesignation report for the Environmental Protection Agency that contains ethnographic information related to coal development). See, Jorgensen (1984) for a later development of the theme of cultural differences between non-Indian ranching and farming communities, and between each of these and Indian communities, in relation to resource development impacts.

¹⁰ See Research and Planning Consultants, Inc. (RPC) (1983). See also the critique by Thompson (1986). Wisconsin state mining law has a highly unusual requirement that a proposed mine must "... not result in a net substantial adverse economic impact . . ." in the local area, or a permit cannot be issued (Sec. 144.85(5)(a)1., Wisc. Stats.). Thus, it would have been awkward for the proponent had the EIS (the Wisconsin Environmental Policy Act incorporates NEPA to the state level) shown a local net adverse impact.

¹¹ "Since people often desire and value different things according to strikingly different criteria, the work of applied anthropologists regularly involves efforts to mediate claims upon a society's resources, or to reconcile the different cultural processes which influence . . . (how people) realize what they value" (Chambers 1985:11).

¹² The above remarks are offered as suggestions for thought, rather than as dogmatic conclusions. The underlying point is that anthropology is in early stages of coming to grips with such broad scale legal mandates for "professional social inquiry" (Lindblom and Cohen 1979) as are under consideration here. It makes sense to continue open discussion of what, operationally, we take these legal mandates to mean.

¹³ See, e.g., Partridge and Eddy (1978:43), and Weiss (1977b:2). Jones (1976) finds that it is precisely when this definition occurs that anthropologists have least effect on policy; see also Prewitt 1983.

¹⁴ Moral/ethical frames of reference remain, despite this possibility, a valid and viable alternative in anthropology (e.g., Wright 1988, Weber and McCall 1978). Contemporary debates in applied an-

thropology, however, well illustrate the horns of the dilemma on which the field as a whole finds itself in trying to construct a professional identity when technocratic or ethical frames of reference seem to be the only available and mutually exclusive alternatives (e.g., Cochrane 1980 and the accompanying comments and reply, and the exchange between Cohen 1986 and Collins 1986). Collins (1986:360) suggests, as I do here, that the horns of the dilemma may be blunted by framing research problems in reference to existing policies. When the policies have been enacted into law, framing research problems with reference to explicit judgments that operationalize that law in social science terms, would seem to be *the* correct professional response.

¹⁵ Rosen (1977:118), however, finds that "there is presently in the juristic community a more acute perception of the interrelationship between law and social science than in the social science community. . . . More social scientists clearly need to address themselves to this problem."

¹⁶ An anonymous reviewer suggested in this connection that while NEPA studies may make decision makers more aware of the broad range of community issues, they still must operate within in a field of constraints and limited opportunities. Anthropologists also might contribute to better understanding of these. This is a useful observation. Perhaps assessment of such opportunities and constraints might usefully become part of many SIA studies.

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AGENDA C-2(c)
SEPTEMBER 1990

IMPACT ASSESSMENT, INC.

2160 AVENIDA DE LA PLAYA, SUITE A • LA JOLLA, CALIFORNIA 92037

TELEPHONE (619) 459-0142 • FACSIMILE (619) 459-9481 • MODEM/BBS (619) 459-9468

Mr. Steve Davis
North Pacific Fishery Management Council
605 W. 4th Avenue, Suite 306
Anchorage, AK 99501

August 29, 1990

Dear Steve:

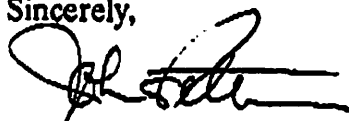
This letter is intended as a followup to my presentation before the North Pacific Fishery Management Council Planning Committee regarding the Social Impact Assessment component of the proposed Inshore-Offshore Amendment under consideration by the Council. The objective of this letter is to address concerns of the Committee that the social impacts of the proposed Amendment be considered as they apply to the Seattle/Ballard area.

As I discussed during my presentation, Seattle is one of the nation's major cities, and it would be literally impossible to characterize the social, economic, and cultural organization of this city at the level of detail required for comparative analysis (i.e., in relation to the six communities currently under consideration). Bellingham was selected, not because it provided the best example of economic dependence on the particular groundfish fisheries under consideration, but because it represented an "analogue" social, economic, and cultural organization against which to assess the potential social impacts of the proposed regulatory changes on Washington communities (wherever located). This was the same criteria used for selection of the Oregon community included in the analysis.

As I mentioned in the presentation, and we have since discussed, two potential options are possible: (1) we could expand the study to consider a selected sub-community (i.e., one of the smaller residential areas mentioned by a member of the Committee) in a way that parallels our examination of the other six communities; or (2) we could conduct key interviews with processors, fisherman organizations, unions, local businessmen and leaders to develop sufficient information to describe, in non-quantitative terms, the potential social impacts of the proposed regulatory changes on affected community clusters. The second of the two options would at least enable us to describe, at a relatively elevated level, the principal social ramifications of the various proposed distribution systems, without, however, being able to provide the quantitative support that would be available under the first option. The first option would be better suited to inter-community comparison.

These are decisions which will need to be made by you, Peter, Lou, the Committee or the Council. I would like to add, however, that either of these two options would result in additional costs which could not be contained under our current budget. I will give you a call on Friday to follow-up and would be pleased to expand or redraft this letter to address any additional concerns.

Sincerely,



John S. Petterson, Ph.D.

CITY OF SEWARD, ALASKA
RESOLUTION NO. 90-094

A RESOLUTION OF THE CITY COUNCIL OF THE CITY
OF SEWARD, ALASKA, REGARDING THE ALLOCATION OF GROUND FISH

WHEREAS, the waters off Alaska's coast are among the most productive fishing grounds in the world; and

WHEREAS, many of Alaska's coastal communities, including the city of Seward, rely on the fishing industry as a primary employer; and

WHEREAS, the fishing industry is of primary importance to our community and our state and offers one of the greatest opportunities for sustained economic growth and economic development for our future; and

WHEREAS, the state of Alaska and coastal communities rely greatly upon the economic activity generated by the fisheries off our coast; and

WHEREAS, fisheries will take on an even greater role in Alaska's future as oil production diminishes and the state must rely more upon our renewable resources for economic stability; and

WHEREAS, the Magnuson Fishery Management and Conservation Act was passed to encourage broad-based economic development in the U. S. from the resources contained within the U. S. 200 mile waters; and

WHEREAS, many of Alaska's groundfish harvesting vessels rely upon in-shore processing plants to purchase their products; and

WHEREAS, in-shore groundfish processors contribute to Alaska in many ways, including employment, taxes, community development, diversified fishery opportunities and state marketing programs; and

WHEREAS, most off-shore factory trawler operations do not contribute nearly as substantially to coastal community economies; and

WHEREAS, in-shore plants and smaller fishing fleets provide for conservation of the resource, including conservation of by-catch of traditional species which affects all Alaska fishing interests, in addition to the groundfish industry; and

WHEREAS, unless a specific allocation scheme of groundfish resources between in-shore and off-shore interests is mandated, the

CITY OF SEWARD, ALASKA
RESOLUTION NO. 90-094

off-shore operations may take most of the groundfish resources off Alaska's coasts and cause our community and state severe economic hardship;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SEWARD, ALASKA, that:


Section 1. The North Pacific Fishery Management Council is urged to prepare a fishery management plan which allocates the groundfish resource between the in-shore and off-shore sectors of the industry.

Section 2. Be it further resolved that the United States Secretary of Commerce is urged to approve such allocations as proposed and managed by the North Pacific Fishery Management Council.

Section 3. This resolution shall take effect immediately upon its adoption.

PASSED AND APPROVED by the City Council of the city of Seward, Alaska, this 13th day of August, 1990.

THE CITY OF SEWARD, ALASKA



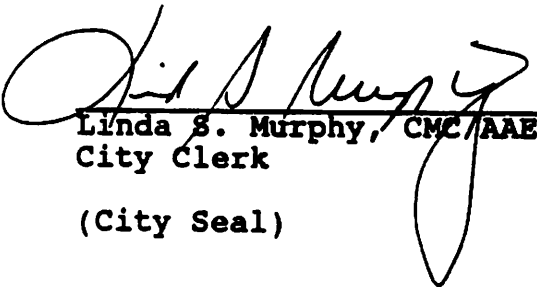
William C. Noll, Mayor

AYES: NOLL, BURGESS, DUNHAM, HILTON, MEEHAN, SIEMINSKI, SIMUTIS
NOES: NONE
ABSENT: NONE
ABSTAIN: NONE


ATTEST:

APPROVED AS TO FORM:

Perkins Coie, Attorneys for the
city of Seward, Alaska



Linda S. Murphy, CMC/AE
City Clerk



Fred B. Arvidson
City Attorney

(City Seal)

Agenda C-2(b)**- TRANSMITTED VIA FAX -****FREEZER-LONGLINER GROUP**

September 18, 1990

Dr. Don Collinsworth, Chairman
North Pacific Fishery Management Council
P.O. Box 103136 ODT
Anchorage, Alaska

RE: Eliminating Pacific Cod From the Inshore/Offshore Analysis

Since April the owners and operators of freezer-longliners which concentrate their effort on Pacific cod have been submitting comments urging the Council to eliminate both the Bering Sea and Gulf of Alaska Pacific cod fisheries from the Inshore/Offshore analysis. At the August 24, 1990 meeting of the Fishery Planning Committee several Council members agreed that there is good reason for eliminating the Pacific cod fishery from that analysis, and determined that the Council should take up the issue in September. We fully agree with this proposal, and would like to review our reasoning for your consideration.

The Pacific Cod Fishery Does Not Fall Within the Problem Statement, and Should Be Eliminated From the Analysis.

The fourth version of the Inshore/Offshore "Problem Statement" asserts: "The Council defines the problem as a resource allocation problem where one industry sector faces the risk of preemption by another" (emphasis added). The Pacific cod fishery does not meet these criteria.

I. In the Bering Sea Pacific Cod Are Plentiful and Underutilized - There Are No Allocation Or Preemption Problems**A. There Is A Substantial Biological Surplus (ABC Minus Actual Harvest)**

In contrast to pollock stocks, Pacific cod stocks in the Bering Sea have been managed very conservatively. In 1989 and 1990 pollock TAC's were set at 100% and 88% of ABC respectively, while Pacific cod TAC's were set at 62% and 54% of ABC.

NMFS figures show that in 1989 Pacific cod DAP for the Bering Sea was set at 43% of ABC (OY), and that actual DAP harvest was only only 34% of ABC. JVP harvest was 12% of ABC, and total harvest (DAP plus JVP) was only 46% of ABC. Total catch for 1989 was only 170,835 mt - some 200,000 metric tons (mt) of biologically available Pacific cod were left unharvested in 1989.

In 1990 DAP is set at 48% of ABC (there is no JVP), and as of September 1 only 33% of ABC has been harvested. It would appear that there will again be a huge biological surplus at the end of the year. Note that this surplus may exceed total harvest for the year - again.

B. Though Very Conservative, OY (TAC) For Pacific Cod In the Bering Sea Has Not Been Achieved (National Standard 1 - TAC Minus Actual Harvest)

In 1989 total harvest of Pacific cod (DAP plus JVP) in the Bering Sea was only 74% of TAC, with 60,000 mt of TAC left unharvested. As of September 1, 1990, only 60% of TAC has been harvested, leaving 90,000 mt to be harvested in the next four months. At the present rate of harvest (some 7,360 mt/month, based on harvest rates for the last two weeks of August), it appears that there will still be a substantial surplus at the end of the year.

Where a fishery is underutilized to this degree it is difficult to argue that there is a resource allocation problem, or that one sector is preempting another. There were substantial amounts of Pacific cod left to be harvested at the end of 1989, and it is likely that there will be a surplus again this year.

II. There Is No Free (Bycatch) Lunch

Penalty boxes and vessel pools notwithstanding, bycatch problems aren't going away any time soon. They may haunt us all, but it will take time to work them out. The Pacific cod resource is not in the same circumstance as pollock was two years ago. Pollock is largely a pelagic resource with few non-target species bycatch problems, and greatly accelerated DAP pelagic trawling over the last two years has not created bycatch problems.

By contrast Pacific cod is a bottom-dwelling species, often closely associated with halibut and crab. Achievement of its potential will require scalpel-like harvesting methods which are only now being developed. No effective explosion of effort is anticipated in this fishery.

III. In the Gulf of Alaska, Where the Pacific Cod Resource Is More Fully Utilized, Inshore Processors Already Enjoy the Advantage

NMFS figures show that in 1989, 87% of the Pacific cod harvested in the Gulf were processed inshore, while only 13% were processed offshore. To September 1, 1990, the respective figures are 81% and 19%. It is difficult to argue that the inshore processors need help in the Gulf.

IV. Conclusion

In summary there are considerable surpluses of Pacific cod to be harvested and processed in the Bering Sea, and inshore processors have the clear advantage in the Gulf of Alaska. There does not appear to be a resource allocation problem, nor does it appear that inshore processors have been preempted by offshore processors in this fishery. Because of bycatch problems Pacific cod in the Bering Sea will not be oversubscribed in the near future, and there is no contemporary need for inshore/offshore allocations.

IT IS DIFFICULT TO IDENTIFY A RATIONAL BASIS FOR INCLUDING THE PACIFIC COD FISHERY IN THE INSHORE/OFFSHORE ANALYSIS. WE SINCERELY HOPE THAT THE COUNCIL WILL REMOVE IT AT THIS TIME.

Thank you for your consideration of this matter.

Sincerely,

Thorn Smith
Thorn Smith

CITY OF KING COVE

P.O. Box 37 • King Cove, Alaska 99612 • (907) 497-2340

SEP 28 1990

September 26, 1990

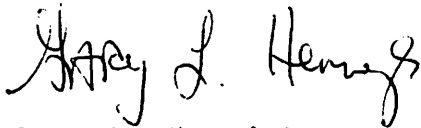
Don Collinsworth, Chairman
North Pacific Fisheries Management Council
P.O. Box 103136
Anchorage, AK 99510

Dear Mr. Collinsworth:

The City of King Cove recently adopted a Resolution to express its strong desire for an in-shore allocation of bottomfish resources. A copy of this Resolution is enclosed.

We encourage the NPFMC to prepare and adopt a bottomfish management plan that fairly considers the needs of our community. Thank you.

Sincerely,



Gary L. Hennigh
City Manager
City of King Cove
1007 W. 3rd - Suite 201
Anchorage, AK 99501

GLH:emn

Encls.

CITY OF KING COVE

P.O. Box 37 • King Cove, Alaska 99612 • (907) 497-2340

RESOLUTION 91-2

A RESOLUTION OF THE CITY OF KING COVE CALLING FOR ESTABLISHMENT OF AN IN-SHORE ALLOCATION FOR BOTTOMFISH HARVESTING AND PROCESSING

WHEREAS, the waters off Southwest Alaska's coast are among the most productive fishing grounds in the world; and

WHEREAS, the community of King Cove relies on the fishing industry as its primary employer and economic base; and

WHEREAS, the fishing industry is of primary importance to the City of King Cove, Southwest Alaska and to the State of Alaska as a whole, and offers the greatest opportunity for sustained economic growth and economic development for our future; and

WHEREAS, the State of Alaska and the City of King Cove and other coastal communities in Southwest Alaska rely upon taxes generated from the fisheries as a basis for our economy; and

WHEREAS, fisheries will take on an even greater role in the future of Alaska, as oil production diminishes and the state must rely upon renewable resources for economic stability; and

WHEREAS, the Magnuson Fishery Management and Conservation Act was passed to encourage broad-based economic development in the U.S. from the resources contained within the U.S. 200-mile waters; and

WHEREAS, many of Alaska's groundfish harvesting vessels rely upon in-shore processing plants to purchase their products; and

WHEREAS, in-shore groundfish processors contribute to our region's economy through employment, taxes, community development, and diversified fishery opportunities; and

WHEREAS, off-shore factory trawlers do not contribute substantially to taxes, employment, economic development, nor are they regulated by state agencies regarding labor practices; and

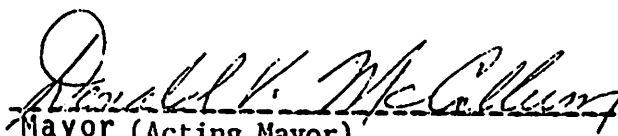
WHEREAS, in-shore plants and smaller fishing fleets provide for the greatest conservation of the resource, including greater conservation of by-catch of traditional species which affects all Alaska's fishing interests, in addition to the groundfish industry; and

WHEREAS, unless a specific allocation of groundfish resources between in-shore and off-shore interests is mandated, the off-shore factory trawlers will take all of the groundfish resources off Alaska's coasts and cause the City of King Cove and other Southwest Alaska communities and the State of Alaska severe economic hardship,

NOW, THEREFORE, BE IT RESOLVED that the City of King Cove strongly urges the North Pacific Fishery Management Council (NPFMC) to prepare a fishery management plan which allocates the groundfish resource between the in-shore and off-shore sectors of the industry; and


BE IT FURTHER RESOLVED, that the Secretary of Commerce of the United States approve such allocations as proposed and managed by the NPFMC.

PASSED AND APPROVED by the City Council of King Cove on this 11 day of September, 1990.



Mayor (Acting Mayor)

ATTEST:



City Clerk



Southwest Alaska Municipal Conference

Putting Resources to Work For People

1007 West 3rd Avenue, Suite 201 • Anchorage, Alaska 99501 • (907) 274-7555

RESOLUTION NO. 90-5

A RESOLUTION CALLING FOR THE NORTH PACIFIC FISHERY MANAGEMENT COUNCIL TO ADDRESS THE INSHORE-OFFSHORE ALLOCATION OF GROUND FISH HARVESTING AND PROCESSING PRIOR TO CONSIDERATION OF NEW ENTRIES INTO THE GROUND FISH HARVESTING FLEET

WHEREAS, the North Pacific Fishery Management Council (NPFMC) has been considering the allocation of groundfish harvesting and processing between inshore and offshore sectors; and

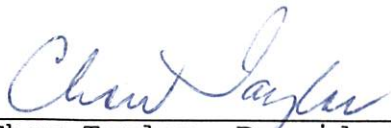
WHEREAS, the NPFMC began consideration of a moratorium amendment in January 1990; and

WHEREAS, the NPFMC has limited staff resources to provide adequate background data for Council decision-making as required by the Magnuson Fishery Management and Conservation Act; and

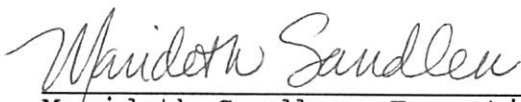
WHEREAS, unless a specific allocation of groundfish resources between inshore and offshore is mandated quickly, offshore harvesting and processing will take all of the groundfish resources off the coasts of Southwest Alaska, significantly and adversely impacting the economies of Southwest Alaska's communities;

NOW, THEREFORE, BE IT RESOLVED, that the Southwest Alaska Municipal Conference strongly urge the North Pacific Fishery Management Council to complete entirely its decision-making process to allocate the groundfish resource between the inshore and offshore harvesting and processing sectors before it considers the moratorium amendment.

PASSED AND APPROVED THIS 9TH DAY OF SEPTEMBER, 1990.



Chow Taylor, President



Marideth Sandler, Executive Director