

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILE 8672
1956 SCOMM 76: HOUSE SPEC. COMM. EXXON VALDEZ OIL SPILL. . 1991-92

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The assignment of a numerical code to a verbal statement involves abstraction, conceptualizing, and coder judgment. To insure consistency in coding decisions, the four persons coding the open ended questions were given training sessions in use of the codes developed for the questions. Coders worked together during the coding process and as questions emerged regarding how to code a given response, it would be discussed and a mutually agreed upon code assigned. Coders would also randomly select coded questionnaires from other coders and check them both for completeness and for consistency of coding decisions. All open ended questions were pre-coded on the questionnaires to facilitate rapid data entry.

Actual data entry utilized an SPSS data entry system which provided a systematic and structured format to enter data directly into documented system files. The data entry system was programmed to allow only certain numbers to be entered for a given answer. If the data entry person entered an out-of-range value, the data entry system would not accept it. This system produced a data set that has required only a minimum of cleaning. In addition, the system produced data files ready for analysis with the SPSS statistics package.

The data set produced by the household survey is large and comprehensive, consisting of more than 600 variables for nearly 600 respondents. Because of the size of the data file, much of the analysis will be conducted on a mainframe computer.

Preliminary Findings

At the time of this writing, data cleaning and analysis is in its initial phase. Figures in this report will be limited to a few representative descriptive statistics taken from initial data runs. Preliminary data runs have been used to produce only univariate frequencies. Data to be discussed below have been arrayed by study community only, and have been selected to highlight a few key variables from the household survey. All reported percentages are based on sample sizes reported above.

Interviews began with several open ended questions intended to get respondents to think about the oil spill and to provide information on their subjective responses to the spill. One of the first questions asked: "When you think about the oil spill and cleanup, what is the one thought or feeling that immediately comes to mind?" Answers were coded into 15 categories based key words and themes in respondents' answers. Most answers involved negative emotional responses (e.g. anger, disgust, despair, fear for the destruction of the environment etc.) or critical responses (e.g. criticisms of Exxon, the state of Alaska, environmental regulators etc.) Some answers were either non-evaluative or expressions of the positive economic effects of the clean-up. For the total sample (N = 596), 88% gave responses to this question that were coded as negative or critical answers.

When coded answers to the "first thought" question are looked at by community, it is clear that the majority of respondents had either negative emotional or critical responses to the spill. Percentages responding in this fashion ranged from 73% of the Akhiok sample, to 91% of those in Chignik and 94% of the Valdez respondents. The community with the highest proportion of respondents having negative/critical first thoughts was English Bay at 96%. It is, of course, not surprising that the majority of respondents from all the study sites viewed the spill and cleanup as a significant negative life event.

Examples of answers given include comments such as:

"Overwhelming vastness-the size of the spill-an overwhelming problem. I just assumed they had some way of containing something like that." (Cordova)

"It shouldn't have happened-not just the oil spill but the whole thing. It shouldn't have been allowed to get so out of control." (Cordova)

"Everything is ruined. This oil spill is one of the worst things that could ever happen." (Kodiak)

"My first reaction -- miles of beach covered with oil and dead animals. I have a grudge feeling against big companies like Exxon that exploit and take advantage by not using safety and not being more prepared." (Kodiak)

"How will they ever get this cleaned up? Will it ever go away?" (Tatitlek)

"...it was a terrible disaster and the future is unknown in terms of what was hit [by oil]." (Seward)

Respondents were next asked what they felt were some of the important changes that happened in their community as a result of the spill. Answers were coded into a number of categories including both positive changes (e.g. increased income, employment, enhanced environmental awareness) and negative changes (e.g. increased social problems, disruption of subsistence, social disruptions of cleanup). For example, 66% of the respondents in Larsen Bay said that the changes in their community were negative. This compares to 85% in English Bay, 73% in Akhiok, 59% in Karluk, 55% in Chignik, 54% in Cordova, 53% in Kodiak, and 34% in Valdez. When responses were summed for the entire sample, approximately half of all respondents felt that at least some of the changes in their

communities as a result of the spill were not desirable. As the figures here indicate, there is significant variation in respondent answers by community.

The following quotes illustrate the range of observations respondents made about the changes they saw in their communities:

"It has drifted (sic) people apart. Not the same as it was before. [We] used to help each other. Kind of different now."
(English Bay)

"Economic changes involves higher prices as well as a change in personal monetary gains. Some people made a lot of money, others didn't. It changed people. It was real emotional here for a lot of people -- it still is. People are trying to shake it and get on with things." (Cordova)

"It'll never be the same. Both environmentally and economically. People's values have totally changed, leaving what they do to make more money on cleanup. More domestic violence, alcohol, and drugs. Unsettling-distrust of others especially outsiders. I'm distressed that there's no cure." (Kodiak)

"Hunting -- they don't go out for seal and ducks or sea lion because we won't eat it. Haven't had a shellfish or bottom fish since the oil spill." (Chenega Bay).

"There was happiness because there was employment- they got jobs. Then there was a lot of stress involved in that people [became] abnormal. Before they always used to want to share [help]-now everything is money." (English Bay)

These quotes indicate that there were both objective (e.g. higher prices, more employment) and subjective (changed values, lack of cooperation) changes that respondents felt had occurred in their communities as a consequence of the spill.

In order to assess personal (as opposed to community) changes as a result of the spill, respondents were asked two related questions: "First, have you personally experienced any positive (good) changes that resulted from the spill?" This question was followed by: "Thinking along the same lines, have personally experienced any negative (bad) changes that resulted from the oil spill?" A number of respondents said that they had experienced positive personal changes, particularly as a result of cleanup enhanced income/employment.

Others were quite emphatic in denying that they had any positive changes in their lives from the spill.

In contrast to positive changes, a wider array of answers were given to the question on negative personal changes. Reported negative changes included such things as disruptions of community lifestyles/routines (from the cleanup), increased divisiveness in the community, negative personal emotional impacts, increased workplace stress, negative effects on subsistence activities, disruptions of the commercial fishing industry, and the like.

The following table presents a summary of responses to the two questions described above. The two questions, of course, are not mutually exclusive. Some respondents indicated that they experienced both positive and negative changes in their lives as a result of the spill. The data do illustrate some comparatively large differences among respondents by community of residence. Most importantly, in almost all the study communities the majority of respondents reported negative personal impacts from the spill and related cleanup disruptions. For the overall sample (N=596), 61% said that they had no positive personal changes from the oil spill or cleanup, and an almost equal proportion, 63%, said they had experienced unfavorable changes in their lives.

Another impact-related question asked respondents what effects they thought the spill would have on them in five years. The most commonly stated anticipated effects were negative economic changes (unemployment, inflation, loss of fishing) and negative environmental changes (reduction or elimination of subsistence resources). In Seward, for example, 52% anticipated enduring negative impacts of the spill while in Valdez the majority (62%) felt there would be no effects in five years. By comparison, in Tatitlek 43% expected negative spill effects in five years as did 45% of the respondents in Karluk and 50% in English Bay. While there is variation among study sites, in most instances significant numbers of residents anticipated enduring disruptions from the spill.

Personal impacts of the spill are expected to be a function of a number of different factors, including respondent variations in direct and indirect exposure to the spill. While data analysis is not yet at a point where the various statistical effects of exposure on outcome variables can be identified, variations on a key exposure variable will be possible to present in the future. Respondents who worked in cleanup related activities had the most direct exposure to oil spill. Communities with relatively small percentages of respondents who worked on the cleanup included: Seward (26%), Valdez (28%), Chignik (23%), Kodiak (16%), Petersburg (2%), and Angoon (2%). (The latter two communities are 'controls.') In contrast are communities with proportionately large percentages of cleanup workers including: Karluk (45%), Tatitlek (80%), Akhiok (82%), English Bay (83%), and Chenega Bay (64%). Overall, of the 596 respondents in the survey, 25% engaged in cleanup related work.

Summary of Personal Changes		
Community	No Positive Personal Changes	Negative Personal Changes
Akhiok	55%	55%
Angoon	95%	45%
Chenega Bay	36%	64%
Cordova	54%	82%
Chignik	80%	75%
English Bay	33%	92%
Karluk	55%	67%
Kodiak	59%	65%
Larsen Bay	45%	73%
Petersburg	78%	35%
Seward	59%	69%
Tatitlek	71%	71%
Valdez	46%	65%

Another indicator of exposure is whether respondents had property/possessions damaged or destroyed by the physical effects of the spill. In contrast to the numbers exposed through cleanup work, few experienced losses to property. For example no one in Chenega Bay, Tatitlek, or Angoon had property losses and only a nominal 2% reported losses in Petersburg. Communities with the highest proportion of respondents with losses included Larsen Bay (26%), Valdez (10%), Seward (13%), and Akhiok where 8 out of 11 (78%) reported property losses. Typically, fewer than half of those with such losses in a given community actually filed claims against VECO or Exxon for compensation. Overall, 3% of those interviewed filed claims against either Exxon or VECO.

Those who fished (commercial, sport, or subsistence) were likely to have had significant exposure to the oil spill. Persons who fished were also likely to have experienced damage to, and/or closures of fishing areas in the aftermath of the spill. Illustrative is the case of Valdez where 80% of the respondents fished, and half of them had fishing areas closed. Similar impacts were observed in other communities: Larsen Bay- 86% fished- 68% had fishing areas damaged or closed; Tatitlek- 93% fished- 79% had areas damaged or closed; Karluk- 90% fished-40% had damage to or closure of areas; English Bay-100% fished- 75% had fishing areas damaged or closed.

The spill and cleanup had various indirect effects on respondents. Time spent working on the cleanup was time necessarily taken away from other social, leisure, and work activities. Conversely, not being able to fish commercially had the opposite effect on available time for respondents. To assess respondents' time commitments, one item from the household survey asked respondents if the number of hours worked had changed since the oil spill.

In several communities there was only a modest increase in hours worked for respondents. In the non-impacted communities of Angoon and Petersburg, approximately 14% in each indicated increased working hours due to the spill. In Akhiok, 27% reported increases in the number of hours worked. In other communities the increases were more pronounced: Chenega Bay and Karluk- 73% reported increases; Larsen Bay- 59% had such increases; Valdez- 80% indicated work increases; Seward- 40% reported spill related increases in time spent working; Chignik- 23% had increased time spent working. Increases in work time could be a direct result of working on the cleanup. However, as the cleanup caused labor shortages in small businesses and community agencies in many areas, those who remained in those jobs often had to work more hours to compensate for staff shortages. For the total sample (N=596), 39% reported increases in hours worked since the spill.

One potential effect of working longer hours is in changes in the quality of social relations, both within the immediate family and with kin, friends and neighbors. To get at potential effects of the spill on the quality of such relations, respondents were asked about how their current relations with spouses, children, relatives etc. compared to those before the spill. In some instances, such as Seward, Angoon, Larsen Bay, and Tatitlek, there were few reported changes in a range of social relations. In Valdez, 28% reported improved relations with their spouse/partner since the spill, a distinct increase compared to other sites. In Akhiok, on the other hand, 20% indicated they were not getting along as well with their spouses, and 27% not as well with their neighbors. Similarly, 18% of the Chenega respondents and 25% of those from English Bay reported worsened relations with their spouses compared to pre-spill.

In addition to social relations with family and friends, a significant issue in many of the impacted communities was how well residents got along with the influx of persons who came into their communities. In most of the communities in the survey, approximately one-third of the respondents indicated that they had problems or conflicts with "outsiders." For some

communities a larger percentage reported problems: Chenega Bay- 46%; Karluk- 46%; English Bay- 58%. The fewest respondents who reported such problems resided in Chignik where 13% said that they had difficulties with outsiders. For the overall sample, 27% reported having problems with newcomers in their particular communities.

Another significant area of potential disruption from the spill was in subsistence activities. Subsistence activities were affected by the oil spill through the closure of resource areas, from obvious, visible contamination of resources, and from persons' fears about the possible contamination of foodstuffs. In addition, cleanup related work activities reduced the time available for subsistence for some respondents, reducing in turn the amount of subsistence foods they were able to acquire. Summary information on three questions from the household survey is presented below. The first question asked respondents about pre-spill subsistence activities in the household, and the second asked about post-spill subsistence activities. The third question concerned whether changes in subsistence activities were the result of the oil spill or some other factor.

As can be seen in the following table, most study communities reported a 10% to 20% drop in household subsistence activities since the oil spill. For the majority reporting a drop, the oil spill was a significant factor. The sharpest drop was in the case of English Bay respondents, where two-thirds of the households indicated a drop in subsistence, and all there attributed the reduction to the effects of the oil spill. For the entire sample (N=596), 81% had engaged in subsistence activities prior to the spill, 64% did so after the spill, and 35% said the oil spill had a direct effect on their subsistence patterns.

Changes in respondent physical health was the subject of a comprehensive set of items in the interview protocol. For this report a summary of two items will serve as general indicators of pre- and post-oil spill health status of respondents. The second table following presents summaries of the percentages of respondents reporting either 'excellent' or 'very good' health for prior to the spill and for the time period since the spill.

Subsistence Summary			
Community	Pre-Spill Subsistence	Post-Spill Subsistence	Spill Affected Subsistence
Akhiok	100%	91%	73%
Angoon	92%	92%	8%
Chenega Bay	82%	64%	91%
Chignik	94%	71%	36%
Cordova	78%	55%	39%
English Bay	100%	33%	100%
Karluk	64%	55%	55%
Kodiak	83%	63%	44%
Larsen Bay	86%	64%	68%
Petersburg	82%	79%	3%
Seward	67%	43%	43%
Tatitlek	100%	85%	79%
Valdez	62%	44%	28%

**Physical Health Summary:
Respondents Reporting Very Good/Excellent
Health**

Community	Pre-Spill	Post-Spill
Akhiok	46%	18%
Angoon	52%	48%
Chenega Bay	46%	36%
Chignik	48%	42%
Cordova	53%	42%
English Bay	33%	13%
Karluk	55%	55%
Kodiak	61%	55%
Larsen Bay	46%	36%
Petersburg	62%	61%
Seward	63%	53%
Tatitlek	50%	36%
Valdez	60%	49%

With the exception of Karluk, at least some respondents in all communities reported a drop in health status. Statistically, the largest percentage declines are in the communities of Akhiok, Tatitlek, and English Bay. It is noteworthy that English Bay also has the lowest percentage of respondents reporting very good or excellent health. For the entire sample, 56% (N = 596) reported very good/excellent health before the oil spill and 48% reported it after the spill. Subsequent statistical analyses will attempt to identify explanatory factors for these declines in self-reported health statuses. For the total sample of 596 persons, only 7% indicated that they had health problems that were a direct result of the spill or cleanup.

In addition to measures of physical health, three psychological scales were administered to respondents. All three scales (anxiety, depression - CES-D [Center for Epidemiological Studies of Depression scale], post-traumatic stress disorder - PTSD) measure sequelae typically associated with disasters and other major life events. As with physical health

measures, only a few preliminary observations will be made from the household surveys for this report.

Respondents were first asked if they had experienced a period of a month or more in which they felt worried or anxious. For a number of communities (e.g. Seward, Tatitlek, Valdez, Chignik, Akhiok, Angoon), approximately a quarter to a third of the respondents answered in the positive to this anxiety scale screening question. The percentages reporting periods of anxiety were somewhat higher at Cordova (46%), Chenega Bay (46%), Karluk (55%) with the greatest number at English Bay (79%). These numbers compare to 23% for the total sample of 596 persons.

Those who reported one or more symptoms of anxiety were also asked if they thought their feelings were related to their oil spill experiences. The data suggest that in a number of instances the oil spill was not the primary source of these periods of anxiety for respondents. In Akhiok, approximately one-third of those who had experienced significant anxiety attributed it to the effects of the spill. In Karluk, with a relatively high number reporting anxiety, only 17% said their anxiety derived from the oil spill. Conversely in Tatitlek, of the 30% reporting anxiety, 75% said it was the result of the oil spill. In English Bay, with the highest proportion of respondents in this category, 68% attributed their anxiety to the oil spill. Only Chenega Bay had a greater proportion of respondents (80%) who said their anxieties were caused from the spill.

Post Traumatic Stress Disorder is a recently defined, multi-dimensional psychological disorder measured using one of several different scales. Key dimensions include elements of depression and anxiety, as well as sleep disturbances, hyper-vigilance, heightened startle response, intrusive recollections of traumatic events, avoidance of stimuli, emotional numbing, and flashbacks. In communities such as Chenega, Karluk, Tatitlek, Seward and Valdez, anywhere from 10 to 35% of the respondents reported one or more symptoms associated with PTSD. The actual percentages varied by the symptom in question. Generally, a higher percent of respondents would indicate symptoms such as sleep disturbances, avoidance of stimuli, and having unpleasant memories, than symptoms such as flashbacks, emotional numbing, and startle responses.

In the community of English Bay, a somewhat higher percent age of respondents reported PTSD symptoms. While in most communities between a tenth and a third indicated they had experienced a given symptom, for English Bay respondents the numbers are consistently in the 40% to 60% range for each symptom. This indicates a greater likelihood of trauma related distress in the community. Of course, the incidence of self-reported symptoms does not constitute a clinical diagnosis of PTSD. The significance of different symptom rates for respondents will be explored fully in the final report for this study.

When the PTSD index is summed for each respondent, it produces a scale with values ranging from 0 to 20, with larger values indicating more pronounced stress disorders. For

the total sample the average PTSD score was 4 and the modal category was 0. Further, 85% of the 596 respondents scored under 10 on the 20 point scale. In subsequent analyses, factors that account for high PTSD scores will be identified for that small segment of the sample with possible psychosocial disorders related to traumatic events.

The 20-item CES-D scale developed by the Center for Epidemiologic Studies of the National Institute of Mental Health provided the operational definition of depression. The 20 CES-D items were scored on a standard four-point scale (0-3). The potential range of the score is 0 to 60; our actual range was 0 to 50. A score of ≥ 16 used as a criterion for depression, based on its use in similar community surveys of the prevalence of depressive symptoms (Comstock and Helsing, 1976; Frerichs et al., 1981; Berkman et al., 1986; Kennedy et al. 1989; Golding and Burnam, 1990). Subjects with a score of 31 and above were defined as seriously depressed. Validation studies by Weissman et al. (1977) indicate that a cutpoint criterion is a sensitive but not overly specific indicator of depression; hence the scale does not provide an accurate measure of the prevalence of clinical depression. Nevertheless, its use in other studies indicates it is a reliable measure of depressive symptoms.

A preliminary analysis of depressive symptoms by community and subregion is presented in the following table. Overall, the mean CES-D score of the total study sample was 8.39 and the prevalence of scores of ≥ 16 was 16.8%. The patterns of depressive symptomatology are in close agreement with those reported in other community surveys using the CES-D. Frerichs and his colleagues (1981), for instance, reported a mean CES-D score of 9.2 and a prevalence rate of scores of ≥ 16 of 19.1% in a community survey of Los Angeles County. Berkman and her colleagues (1986) reported a mean score of 8.06 and a prevalence of scores of ≥ 16 of 16.4% in a sample of older adults living in New Haven.

Subjects living in the community of English Bay displayed the highest mean depressive symptom score and prevalence of scores of ≥ 16 and ≥ 31 . Akhiok and Chenega Bay also displayed higher mean CES-D scores and scores of ≥ 16 than most of the other study communities. Due to the high prevalence of categorically defined depression in the English Bay sample, the Kenai Peninsula subregion displayed the highest mean CES-D score and prevalence of categorically depressed, followed by the Kodiak Island, Prince William Sound, and Southeast/Chignik subregions. It appears that small, predominately Native communities (English Bay, Akhiok, Chenega Bay, Larsen Bay, Tatitlek, Karluk, Angoon) had higher mean CES-D scores than larger, ethnically mixed communities (Valdez, Seward, Petersburg). When examined in terms of community size, mean CES-D scores and rates of categorically defined depressive symptoms appeared to be higher in the small communities located in closest proximity to the spill (Chenega Bay, English Bay), than in small communities located further away from the spill (Chignik, Angoon, Karluk). Among the larger communities, Cordova and Kodiak had higher mean CES-D scores and rates of categorically defined

Center for Epidemiologic Studies-Depression Scores					
Community or Subregion	CES-D Score				
	Number	Mean	S.D.	% ≥ 16	% ≥ 31
Prince Wm Sound Subregion					
Chenega Bay	10	10.50	10.58	30.0	0.0
Cordova	56	9.41	9.27	23.2	1.8
Tatitlek	12	8.83	13.33	8.3	8.3
Valdez	60	4.87	5.75	5.0	0.0
Kenai Peninsula Subregion					
English Bay	23	20.17	12.61	56.5	21.7
Seward	52	7.46	8.21	13.5	3.8
Kodiak Island Subregion					
Akhiok	10	10.90	10.69	30.0	0.0
Karluk	6	8.33	6.50	16.7	0.0
Kodiak	103	9.40	9.44	18.4	5.8
Larsen Bay	17	11.82	9.68	17.6	5.9
Chignik Subregion					
Chignik Bay	25	7.04	5.17	8.0	0.0
Southeast Subregion					
Angoon	57	8.88	9.05	17.5	3.5
Petersburg	93	5.40	6.43	10.8	0.0
Total Region	524	8.39	9.04	16.8	3.4

depressive symptoms than the communities of Valdez, Seward, and Petersburg. As with the PTSD scale, further analysis will identify what role exposure to the oil spill may have had in the incidence of depression in respondents.

Related to indicators of psychological impacts were a series of questions on drug and alcohol use by the respondent as well as by others in the community. Respondents were also asked if they thought that drug and alcohol use was creating problems in their communities that were not present before the spill. The following table summarizes, by community, percentages of respondents saying that alcohol use and drug use since the spill was creating new problems in their respective communities. In a number of instances respondents said that the alcohol and drug problems weren't new, but rather that the oil spill and cleanup simply exacerbated existing problems.

Respondents Reporting Community Problems From:		
Community	Alcohol Use	Drug Use
Akhiok	9%	9%
Angoon	11%	8%
Chenega Bay	36%	36%
Chignik	10%	3%
Cordova	29%	17%
English Bay	71%	29%
Karluk	55%	36%
Kodiak	32%	27%
Larsen Bay	50%	41%
Petersburg	3%	3%
Seward	35%	32%
Tatitlek	7%	21%
Valdez	35%	25%

The next table below illustrates significant variation in respondent perceptions of drug and alcohol related problems in their respective communities. It is only in the communities of English Bay, Karluk, and Larsen Bay, that a majority felt the oil spill caused new alcohol related problems in the community. Similarly, in no community did a majority of respondents feel that drug use had created new social problems.

When responses to the questions on drug and alcohol related problems are summed for the total sample (N=596), 26% reported community problems from alcohol use, and 20% likewise for drug use. These overall figures can be contrasted with the data presented earlier to observe variations by community. From this preliminary look at these data it is clear that respondents in Karluk, Larsen Bay, and English Bay were more likely to report new alcohol related problems than were respondents in the total sample.

Summary: Household Survey Preliminary Results

This preliminary look at the household data highlights only a few of the variables for which data were gathered. The data presented were selected to illustrate indicators available in the areas of exposure, effects on employment, disruptions of subsistence, effects on social relations, psychological impacts, and respondent attitudes and opinions on the spill and cleanup. The household data clearly indicate the oil spill was a major event for many respondents, one that has ostensibly affected their lives and communities in complex ways. The data also suggest that many in this study expect these effects to continue well into the future.

This presentation of the household survey has been descriptive and is intended for introductory purposes only. Pending the completion of multivariate analyses, drawing conclusions about the impacts of the oil spill and cleanup on the social and psychological well-being of respondent households would be premature. Because no pre-oil spill data were available on respondents, relevant pre-spill information has been gathered retrospectively as part of the cross-sectional research design of the survey. For variables which pre-spill and post-spill data are available (e.g. subsistence activities, social relations), determining the effects of the oil spill on changes in these indicators will be possible. Analyses currently being conducted will assess what effect the various exposure variables have on available indicators of the social and psychological statuses of respondents.

It should be noted that our preliminary information tends to support the findings of a study conducted by the Valdez Counseling Center (VCC). The VCC study was conducted to determine the psychological impact of the *Exxon Valdez* oil spill on the residents of Valdez and Cordova. This study was a one year, three phase effort. The summary of the study (VCC 1990:22 [unpublished manuscript]) states that:

Stress reactions to the oil spill, as measured by the Frederick Reaction Index, upheld the primary research hypothesis that the oil spill was an extreme stressor that could cause emotional problems for most area residents. Cordova was found to have a higher incidence, intensity, and duration of stress as a result of the spill than was experienced in Valdez. Evidence of delayed and cyclical stress reactions was found as well as a cause and effect relationship between stress and the incidence and severity of depression. Perceived Social Support was found to be a mediating factor in Valdez but not Cordova. In spite of certain demographic similarities, Cordova was noted to represent a very different population than Valdez. Investigation of subgroups found little relationship between group membership and Reaction Index scores due to a high level of variability in individual stress reactions to the oil spill and its aftermath.

Further analysis of household survey results will allow a closer comparison with common types of measures between the VCC study and the household survey. The household survey also contains a much wider array of information that will provide a richer context for psychological impact results.

An appendix at the end of this volume presents household survey results for selected questions, by community. The information presented in the appendix focusses on a limited number of questions within the set of questions that addressed social and psychological impacts of the oil spill and the ensuing cleanup. Again, like the preliminary results presented above, it is important to note that the data from the household survey have not yet been analyzed to any degree. The information is presented to be suggestive of the type of data that will be available from the survey database.

The remainder of this report describes the salient social and psychological impacts uncovered in the course of fieldwork during the late winter and spring of 1990. There are five regional sections, each of which begins with a brief description of the economic, demographic, and social characteristics of the area. Within each regional section are chapters on the communities we have included as part of that region. The format of the community chapters are virtually identical. They begin with a short community description followed by discussions of response effort, effects on local government, changes in community, changes in way of life, effects on family, mental health, physical health (medical), and changes in personal experience.

KODIAK ISLAND: REGIONAL OVERVIEW

Kodiak Island is located in south central Alaska east of the Alaska Peninsula. The area referred to as Kodiak Island includes a group of smaller islands in addition to the city of Kodiak. The region includes the city of Kodiak, and the six Native villages of Port Lions, Ouzinkie, Larsen Bay, Karluk, Old Harbor, and Akhiok all of which are part of the Kodiak Island Borough (KIB). The borough population fluctuates between 13,000 and 15,000. The population on the island is ethnically diverse, and includes Natives of Alutic background, and immigrants from the Philippines and Central and Meso-America. The KIB administers a number of social services to the villages on the island. The Kodiak Area Native Association (KANA) provides medical and social services through the Tribal governments in each village. The Coast Guard has a base on the island which accounts for approximately one third of the population on the island.

The economy of the island is centered around commercial fish harvesting and processing. The population of the island includes many seasonal residents who live in other areas for part of the year and make their home in Kodiak in the summer months. The fishing industry employs cannery workers, crewmen, and provides a variety of jobs for local residents. Throughout this discussion, the use of subsistence foods is referred to. For the purpose of this section of this report, the meaning of "subsistence foods" includes food often obtained through commercial fishing methods, and distributed among the community for consumption, and is not limited to specific subsistence activities.

An estimated two thirds of the shoreline of Kodiak Island was oiled. The oil spread from the northern end of the island, along the west coast, and through the many passages, coves and small islands that comprise the Kodiak Island group. Oil coverage was sporadic and reached the area in the form of mousse, tarballs, and sheens.

The villages, although discussed separately, experienced many similar psychosocial impacts. The influence of outsiders in Native communities and the change in economy associated with oil spill cleanup work were disruptive to life in the villages. Many villages experienced extreme disruption of local governments and strained relationships with service providers. The introduction of additional regulations, although discussed in only a few communities, had ramifications in all communities within the region. An example of this is the introduction of the "six pack" licensing requirements as explained in the section on Port Lions. Concerns about subsistence and commercial fishing were prevalent in all communities during the field visit in the winter and spring of 1990.

The City of Kodiak

The city of Kodiak is located near the northeastern section of Kodiak Island and is the seat of the Borough. The population of the city of Kodiak is roughly 7,000. A Coast Guard base is located near the city of Kodiak and Coast Guard personnel and dependents represent approximately 3,000 residents. The economy is primarily based on fish harvesting and fish processing. Other economic activities on the island are tourism, some timber industry and governmental offices. For the purpose of this report, residents of the city and the Borough are discussed jointly and referred to as Kodiak "residents." Community members are a unique combination of Alaska Natives, and people from outside the area who have often chosen to live in Kodiak for the scenic beauty, economic opportunities, and the independent lifestyle. Residents have described the community as resilient and individualistic, yet cooperative and helpful times of need.

Response Effort

The response effort by the KIB and the city of Kodiak comprised the nucleus of response for the entire island. When citizens of Kodiak Island first heard of the *Exxon Valdez* oil spill there were a variety of reactions. During the first weeks of the spill, many citizens believed the fishing season would continue as usual. Others were adamant that the oil would reach the island and early efforts at preparation for response were initiated. A long series of events took place preceding the Exxon and VECO cleanup operations. Meetings were held daily in the city and Borough assembly chambers, and attendance was so large the meetings had to be moved to the high school auditorium. Community members took active positions and verbalized their opinions and concerns while city and Borough officials informed the public about the progress of the spill and plans for cleanup response.

Soon after the spill, the area around the city of Kodiak was physically oiled with tar balls and a local leader estimated that approximately two thirds of the entire coast line was oiled. However, in many places the oil was not visible because it would permeate the sand and become wedged under rocks.

The city of Kodiak and KIB had a mutual ordinance that put in place an emergency services organization. The plan was designed with the help of the [former] city manager of Kodiak who, in the case of an emergency, would become director of the organization and the two separate governments would disappear. Although an official disaster was not declared, the emergency services organization was functional during the summer of 1989 in response to the oil spill on Kodiak Island.

Because the city manager was out of town at the time of the spill, the finance director was appointed acting city manager. The mayors of Kodiak and the KIB worked together with the commander of the Coast Guard base to formulate plans and pressure Exxon to supply

materials and assistance for the cleanup of oil around Kodiak Island. Initially Exxon did not recognize the need for any action to protect the resources of the island. The progress of the spill was monitored by Coast Guard surveillance, air charters by city and Borough personnel, and various specialists who disseminated information to Kodiak.

acting city manager, the city of Kodiak finance director traveled with a local fisherman to Cordova to consult with officials and fishermen there to learn how the process for response was handled. Information on boat charter rates, financial matters in city government, and Exxon's overall treatment of the community was gathered and sent back to the city of Kodiak through fax.

Meanwhile, in Kodiak, the librarian was assigned the task of collecting a list of potential volunteers. A volunteer fire department collected names for volunteers, and other lists for volunteers in the community were generated. The original volunteers who signed up on those lists were often not people who became paid VECO employees. Some citizens complained that the original lists were never used by VECO in selecting employees.

The resource manager from the KIB mayor's office began setting up a command center. The center was equipped with phones, fax machines, maps, and supplies for Coast Guard, Exxon and VECO representatives. City and Borough representatives made reconnaissance flights around the island and towards Prince William sound to track the spill. Maps were produced from the Borough planning department and Coast Guard. Local residents familiar with the tides of the sea became convinced by early April that the oil would reach the island. Negotiations had been ongoing with Exxon officials for recognition of the problem, but action from Exxon officials was delayed.

By the time Exxon became involved in the cleanup plans, Kodiak had developed an involved response plan. Local fishing fleets were prepared to work on the cleanup, and had been collecting old nets and supplies to use for collecting oil out of the water. Foreign boats were on call to aid in the effort. Lists of volunteers had been generated. The Coast Guard had been working closely with Kodiak officials. Citizens had been stockpiling rags for cleanup, and plans for treatment of oiled animals were made.

A local program for the use of geotextile (also called typar) was implemented and citizens began manufacturing boom and nets with the geotextile material. Geotextile is a petroleum product that has the ability to absorb oil and allow water to pass through. The Coast Guard donated hangars for construction of the products and a local woman with her own clothing manufacturing company worked with the help of others to build geotextile products for collecting oil out of the water. The local effort was funded with help from the Borough, and a variety of methods for removal of oil from the water were developed. Much to the dismay of the local residents who were active in the geotextile movement, any use of the material was banned by Exxon.

Exxon began takeover of the cleanup operation during the third week in April. Shortly thereafter VECO arrived. One concerned citizen voiced her opinion about the early days of the spill before Exxon arrived on the scene:

When we first heard about it, it was really exciting, because our local leader, coast guard leaders, and city manager, and other people were saying, we don't care about Exxon, we don't care about anybody else, we are gonna protect our island, we're gonna do everything we can to protect our island . . . and the town was really excited, because there was something that we could do, we could unify . . .

According to several citizens, Exxon and VECO management personnel expressed little or no interest in working with the local response effort already in progress. Local fishermen and Kodiak officials had identified areas to be protected and continued to do so throughout the summer of 1989. Several community leaders and VECO employees stated that they were forbidden to work on beaches known to be oiled, and instead were sent to relatively clean areas. Many locals believe that there was an intentional effort to prevent them from working on oiled beaches. An atmosphere of exasperation, sadness, and resentment towards the VECO and Exxon cleanup effort was present at the public meetings held throughout the summer.

Citizens of Kodiak became extremely frustrated by the loss of control over protection of resources on the island. Public meetings continued and attendance was high. The city and Borough officials maintained communication with the outlying villages through a village liaison and continued to try and work with Exxon and VECO for a successful cleanup operation. The regulations and directives from Exxon and VECO officials, whose personnel changed continuously, combined with the various state and federal agencies, served to stifle the efforts of locals at "getting oil out of the water," as one activist stated.

Local Government

The oil spill placed constraints on the functioning of city and borough governments. The finance director of the city of Kodiak was active during the early weeks of the spill with response, and some additional workload was placed on the staff in that department because of phone and faxes. The KIB finance department was affected by an enormous amount of bookkeeping for Exxon-related expenditures and revenues. Billings for city expenses were reimbursed by the borough who handled most of the Exxon accounting for both governments. The Borough accountant and secretaries worked substantial amounts of overtime to keep track of Exxon records. The increased workload from oil spill-related tasks

on the KIB finance department was still continuing during the field visit in late winter of 1990. At that time, one section of an entire room was devoted to storage of Exxon-related data.

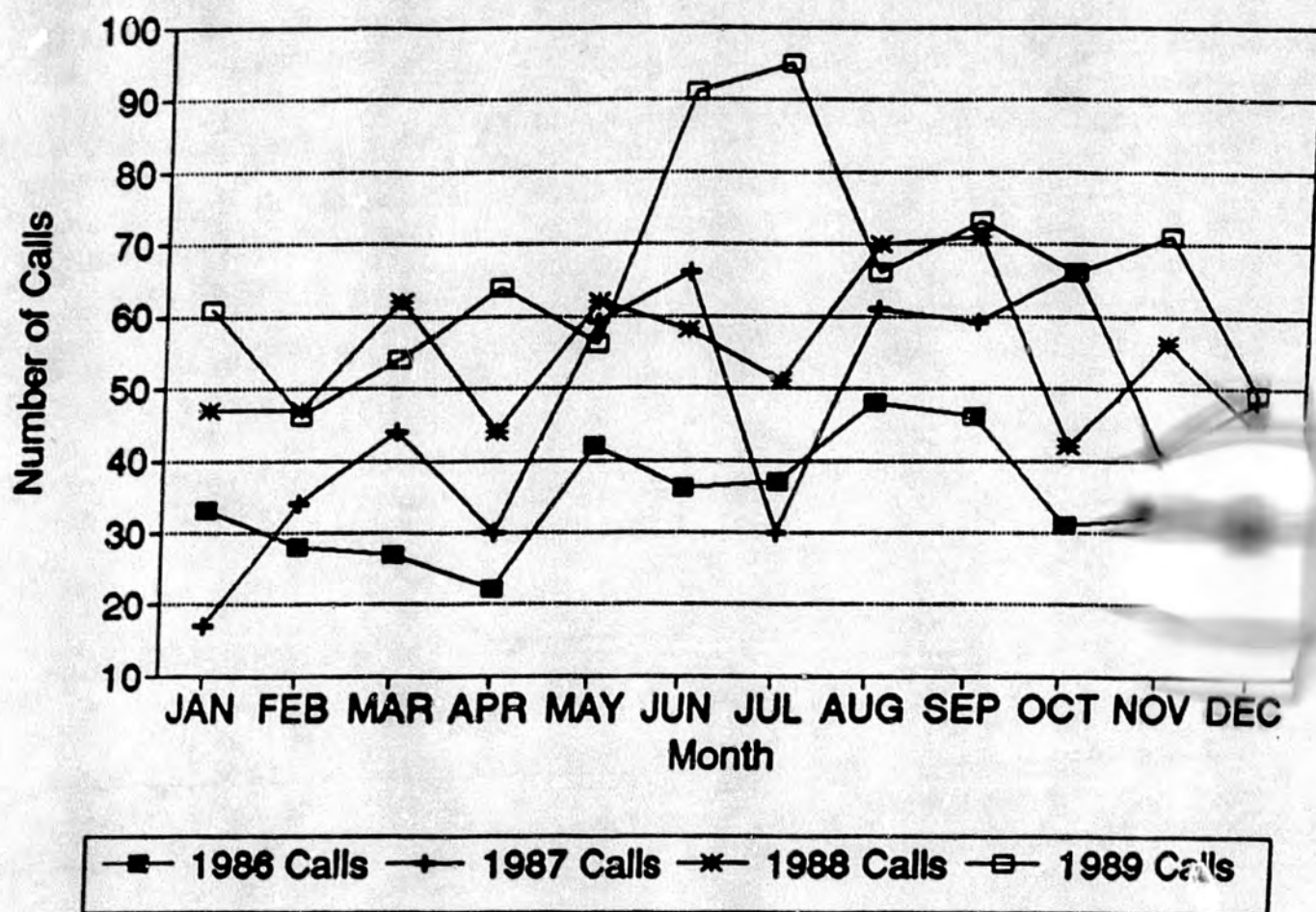
The Director of the Community Development Department (CDD) for KIB was appointed acting mayor during the oil spill when the KIB mayor was out of town. She also served as public information provider and village liaison for oil spill issues. The KIB mayor was often away in Washington on oil spill-connected business. Some planning staff at the CDD experienced an increased workload. This impact was mainly confined to secretaries due to the absence of the director. Some planning projects were delayed because there were less available staff in the Community Development Department. Two direct effects of the oil spill on the CDD were: (1) the request by residents of an outlying neighborhood for zoning compliance permits for wash racks to be used for netting and oil booms and (2) the efforts of planning associates who worked with the Department of Environmental Conservation (DEC) and other agencies to locate a site for storage of contaminated materials before they were shipped away. The CDD department also became active in assisting the villages of Port Lions and Ouzinkie with protesting an incinerator project that was proposed to be located near Port Lions. The proposed incinerator would have burned oil-contaminated waste near the village, and many residents of both Kodiak and the villages were outraged at the proposal. With the aid of Borough personnel, the project was terminated.

The city of Kodiak Fire Department was affected by decreased availability of volunteers during the summer of 1989. Most of the volunteers left the force left to work on oil spill cleanup. The additional stress on existing volunteers was evident when there were only one or two volunteer firefighters available to respond to calls, instead of an average of 5 or 6. This lower number of volunteers placed an additional workload on the paid staff in the fire department. There was an increase in emergency medical services calls in June and July of 1989 compared to the three previous years.

The city of Kodiak Police Department assigned some officers to be body guards for Exxon officials who had allegedly received threats against their lives. City police were also stationed at the public meetings which were often volatile. There was no increase in crime reported by the chief of police. However, there was a 20% increase in jail bookings during June of 1989, though it is unclear whether or not this was oil spill-related. The following two graphics refer to levels of activity for the Emergency Medical Service (EMS) and jail bookings for the past several years.

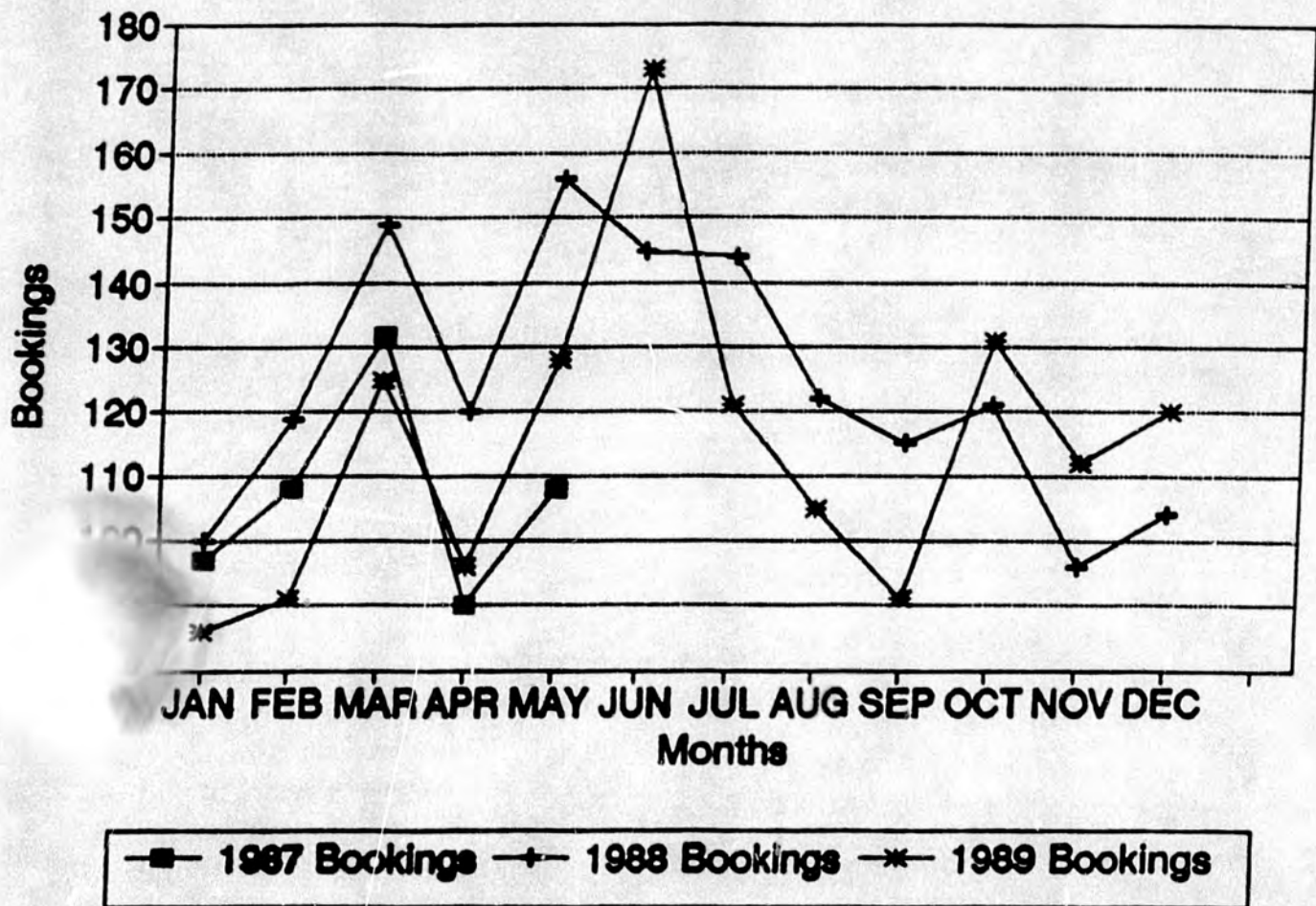
City of Kodiak, Alaska

EMS Calls, 1986-1989



Kodiak, Alaska

Jail Bookings, 1987-1989



The library was minimally affected by requests for oil spill information and temporary use of staff for manning phones at the command center, and compiling lists for volunteers, and distributing applications. The library did not experience increased activity during the summer, but there was a noticeable difference in the types of people using the service. People who used the library in the summer of 1989 were better acquainted in library use than those of an average summer. Library staff have collected "a vast amount of oil spill related material that should prove useful in the future," according to the librarian.

The KIB School District was affected by the spill in different ways. The high school auditorium was used for public meetings during the end of the academic school year and part of the summer of 1989. In the fall of 1989 there was an unusually low number of applicants for classified employees such as cooks, custodians, aides, and secretaries.

The harbormaster in Kodiak experienced some increased workload during the early stages of the spill. The harbormaster's office received phone calls concerning oil spill inquiries and the harbormaster attended public meetings. When the VECO cleanup was underway, they rented a private dock which took some of the pressure off of the city of Kodiak harbor. At first, staff worked additional hours during evenings and weekends. After the first few weeks in April, the harbor operated in a normal manner.

Both the city of Kodiak and KIB governments postponed some of their ongoing projects until after the active cleanup phase of the spill. Some of the projects have not been reinstated since they were suspended. An additional staff person was hired to work for the city of Kodiak in order to allow the city manager to spend the time and energy necessary to work on oil spill-related issues. The city mayor and the KIB mayor also spent numerous hours attending public meetings, working with state and federal agencies, oil spill-associated companies and the media. Officials from both the KIB and the city worked to negotiate claims for fishermen and cannery workers.

The KIB was involved extensively in oil spill cleanup problems and projects. The KIB supported the geotextile project and canning and distribution of salmon for the Native villages on the island. A separate division of KIB called the Kodiak Environmental Cleanup Effort (KECE) was formed and subcontracted by KIB to work on oil spill cleanup through a bounty bag program. The program offered a certain amount of money for the collection of oiled waste. Other geotextile experimental projects were conducted by KECE. The Borough operated the DEC "local response" cleanup operation during the spring of 1990, and maintained contact with the villages and DEC for the cleanup. Overall, leaders from the city and the KIB governments were active with oil spill concerns and policies during the summer of 1989, and continued their involvement throughout the time of the field visit in winter and spring of 1990.

Changes in Community

Many people of Kodiak Island pride themselves on being independent. Non-Natives as well as Natives have chosen to live or stay on the island often because of the atmosphere of closeness and friendliness as well as the independent lifestyle provided by commercial and subsistence fishing.

The feeling of closeness and community was disrupted by the Exxon and VECO cleanup operation, according to some residents. People who generally respected each other found themselves suddenly in the midst of total chaos, and displacement. Those who were actively involved in oil spill concerns felt the effects of the influence of outside control. Some individuals that were active in oil spill issues believed that the citizens of Kodiak were no longer in control of their lives and their environment.

Some Kodiak residents felt little or no affects from the spill, but others were severely affected in the way the community functioned. The Kodiak area residents began depending on the oil companies to control their own affairs. Competition among fishermen for boat charters caused cases of intense rivalry among friends and coworkers according to some local fishermen.

Although some fishermen initially signed up as volunteers, many others had been randomly selected. Many felt they were treated unfairly in the hiring process. The lack of consistency in VECO's hiring of boat charters and beach crews created dissension among many fishermen. An element of competition always existed among fishermen, but the introduction of outside control and money, with no system they considered fair for distribution of charters and claims, caused disagreements among friends within the community.

Disagreements among fishermen concerning the distribution of monetary compensation for lost fishing to permit holders and crewmen by Exxon were unresolved as late as the winter and spring of 1990. The permit holders sometimes charged that they received settlements that were less than adequate in comparison to the previous year's income. Complications with the distribution of crew shares from boat captains created resentment towards captains by crewmen. A separate organization to deal with crew members who received no shares was formed to deal with the problem. Instances of crew members who did not hold permits or receive any crew shares led to animosity towards those captains who declined to sign for their "would be" crew members. Some splits in the community occurred between fishermen who worked ~~for~~ the cleanup and those who did not.

Some cases of increased social solidarity evolved throughout the course of the summer of 1989. The involvement of local women with oil spill affairs led to the formulation of a group of women who call themselves "the crude women." This group of friends initially began as a group that got together as a release from dealing with oil spill activities. They attended public meetings, legislative research and lobbying, and advocacy for geotextile

technology. The "crude women" have become involved in various causes related to oil spill legislation and environmental issues. The participation of women in the oil spill cleanup activities has in some cases been a new role for otherwise less politically active women. Two of the women from the group traveled to Washington D.C. to lobby for oil spill legislation. Another member of the group has been contacted by various organizations to speak across the United States about her role in the geotextile movement and grassroots activities associated with the spill.

Other active community changes since the oil spill were an increased movement towards recycling, and the formulation of fishermen's associations. The local Audubon society took an active interest and role in oil spill concerns. Simultaneously, as factionalism in the community transpired and a sense of solidarity within the community increased. One city employee described a day for social protest:

We made a banner [Kodiak, Fighting For Our Life] out of geotextile material and hung it down at the harbormaster building, and had a big rally and did all these revolutionary things that you use to so often a couple of decades ago.

Housing in Kodiak has always been influenced by a transient population including the Coast Guard. Additional stress was placed on the rental market by the high rentals that VECO and Exxon were willing to pay. Some local residents have experienced an increase in rental rates and a decrease in availability of rental housing since the oil spill. The number of people in the community was not reported to have been more than usual, but the types of people were different.

Way of Life

The public meetings held daily presented the opportunity for individuals to verbalize their concerns and complaints. Strong attendance and participation at the meetings revealed a group of active concerned citizens. Many Kodiak residents expressed frustration with the lack of respect by outsiders toward the way of life on Kodiak Island.

Many fishermen who believed that the fishing season could open at any time did not pursue oil spill cleanup employment during the summer of 1989. They were told that the season could open on a day's notice, and many waited each day to find out if they would be allowed to fish. Waiting on land for the summer was a dramatic change in the way of life of fishing families. Men were not accustomed to staying at home, and were not interested in pursuing alternative activities in hopes that the fishing seasons would open. Some worked on chores around the home, and spent more time with their families. Others attended daily public

meetings with hopes that they would affect the policies to be implemented and learn about the potential impacts to surrounding fishing areas.

Since Kodiak Island is a base for a large number of fishermen who fish waters outside the area, some fishermen who reside in Kodiak were not directly affected by the close of fisheries around Kodiak Island.

The transient nature of life on the island has not been changed, but the overall economic base of the fishing industry became focused on oil spill claims and cleanup jobs into the spring of 1990. Some fishermen who originally believed they were not affected often express concerns about the market price of their catch for the summer of 1990. Others spoke of a trend towards a change in the species fished. Some local guide services were concerned about the potential affect on tourism for sport fishing around the island. Uncertainty about the possible close of the fishing season at any time during the summer of 1990 was present in the minds of many fishermen during the field visit in the spring of 1990. Some of those fishermen who did not earn a substantial amount of income from cleanup jobs and charters in the summer of 1989 felt they were at an unfair disadvantage for competition with fishermen who upgraded their equipment with excess income from oil spill cleanup work in the summer of 1989.

Many of the local service-oriented jobs in local businesses underwent staffing shortages due to employees who left their jobs for oil spill cleanup employment. Restaurants and hotels were especially understaffed. The high wages introduced by the cleanup operations continued to affect service employment during the winter and spring of 1990. People who had become accustomed to the high wages earned from VECO were sometimes unwilling to apply for jobs that paid lower wages.

Some families who normally used subsistence foods had begun buying more meats at grocery stores in contrast to their typical diet of wild game and fish. An increase in the price of food at local grocery stores since the summer of 1989 was reported by some residents. This increase in the cost of food, coupled with the increased use of "store bought" foods has increased the amount of money spent on food for some families on the island.

Family

As a result of changes in the way of life during the summer of 1989, there were significant changes in family life in Kodiak. The increased workload on private business and government employees often left less time for people to spend with families and less energy to devote to family life.

The concept of having men at home during the fishing season was new to many fishing families. While this change in roles for men provided an opportunity for them to spend

time with their children, some women who did not usually work full time were away for long hours on cleanup jobs. The change of male and male roles in family structure was in some cases new to the children of such families. The lack of time at the beach for many families was a common theme when discussing family life with residents.

One mother spoke about an attempt for a family outing at the beach in the summer of 1989:

My oldest daughter went down onto the beach, and the little kids started . . . to follow her down onto the beach, and she goes, mom there's tar, and then there's another one, there's another one, and it was like ooh get off the beach, get the kids off the beach . . . we couldn't go down on the beach because there's too much tar down there . . .

Parents spoke of introducing their young children to death as they encountered dead birds on the beaches.

In some instances both parents were busy working long hours on cleanup activities and children were responsible for caring for younger siblings at home. The largest day care center in the city of Kodiak reported a decrease in attendance during the month of July of 1989, compared to previous years. The center's director cited possible reasons for the decline in attendance as the need for longer evening and weekend hours by cleanup employees who had children. Some behavioral problems were observed by supervisors in day care settings, and were believed to be related to parents who were involved with oil spill activities.

Private day care was difficult for some parents to obtain because some providers worked on the cleanup. At least one group of mothers who were active in public meetings and usually cared for each other's children found themselves without daycare.

Mental Health

The social services in Kodiak operate through a network of various agencies. Referrals to different agencies are common and an effort is made to keep communication open between the social service agencies. The agencies discussed in this section include the Kodiak Women's Resource and Crisis Center, the Kodiak Council on Alcoholism, Kodiak Island Borough Mental Health Center, and social services provided by Kodiak Area Native Association.

The Kodiak Women's Resource Center offers crisis intervention services to victims of domestic violence and sexual assault and to people who need help with personal or professional transition. The center provides shelters for victims of domestic violence and serves men as well as women who desire services. An overall decrease in the number of people using the shelter was reported by the Director of the Kodiak Women's Resource Center. It was hypothesized that the decline in use of shelters and support groups was linked to the fact that community members who worked on the oil spill cleanup were too busy to use the service. During the winter of 1989 - 1990 the Director reported that use of the shelter's support groups was related to family stress or violence associated with financial matters.

An increased number of crisis calls was reported during the summer of 1989, with many calls from women reporting first time incidents of violence. Participation in educational and support programs dropped during the summer of 1989. Staff at the center stated that rural services dropped during the summer months of 1989. The rural services from Kodiak Women's Resource and Crisis Center provide villages with consultation and education for social service and health professionals. Staff at the women's center said they were unable to contact service providers in the villages during the active cleanup phase and that people in the villages were unreceptive to help from outside agencies. There was concern among the social service providers about the family life and problems in the villages during the summer of 1989. The staff at the women's center heard there were increased domestic problems but had no way to assist with the problems without consent from village service providers who were often absent from their positions.

The types of problems that the shelter dealt with related to the oil spill were often related to stress associated with financial affairs which, in turn, affected family life. "A lot of calls where people were just scared economically, . . . what in heaven's name were they going to do with no income coming in," as a staff member reported. At least one incident of a male using the center as a resource from stress associated with the oil spill was noted by a community individual.

The Kodiak Council on Alcoholism (KCA) provides support services for alcohol and drug abuse clients and operates residential treatment programs through a facility called Hope House. KCA lost a large number of staff due to an increase of stress on the job according to the KCA Director. Night staff, support staff, and volunteers were less available with work for KCA from May to October of 1989. The KCA Director reported that the occupancy rate at Hope House was increased by approximately 10% from the summer months through the fall of 1989. Typically, most of the services provided by KCA occur between fishing seasons. Since the oil spill, the cycle changed to periods related to oil spill cleanup. A noted increase after the active cleanup phase and during the winter of 1990 was reported by KCA staff, however no statistics were provided which show trends in service needs and delivery.

Additional staff funds were requested by KCA and granted by the state. The funds were used to pay existing employees for the additional workload. An additional counselor for oil spill-related demands on services was hired in the spring of 1990. Recruiting for replacement personnel was slow during the fall of 1989, and nationwide advertisements were used to attract applicants.

The Kodiak Island Borough Mental Health Center experienced a marked increase in the number of total clients, the number of emergency visits, and the number of group counseling visits from March of 1989 throughout the rest of that year. Documented increase in client load lessened in the fall of 1989, but continued through the winter of 1990. The most severely affected component of the mental health center was emergency services. This increase can be seen in the following graph. Because of the increase in demand for emergency services, treatment for non-emergency services was shortened. Compared to prior years, the highest increase in demand for emergency services was in July of 1989. Much of the treatment provided centered around family issues according to administrative staff at the Mental Health Center. The need for crisis intervention during the summer and fall of 1989 prevented staff from being able to provide educational and prevention services for mental health services. However, use of the facility for group and individual counseling increased in 1989 over previous years. Additional graphs that follow show increased demand in these areas.

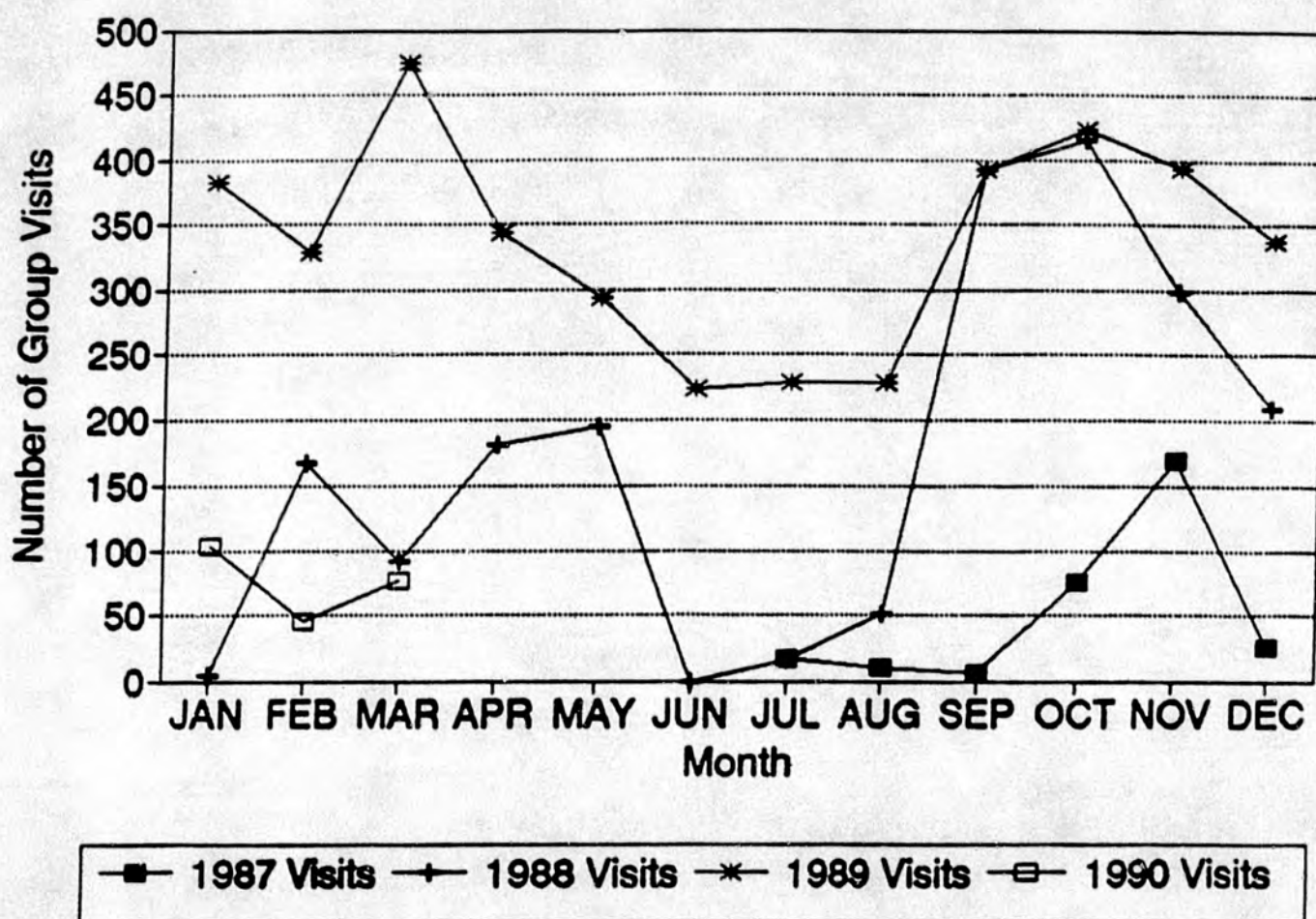
Increased usage of cocaine in the community was noted by mental health personnel who often refer drug and alcohol clients to KCA. The Community Support Program provides service to chronically mentally ill people. Mental health staff noted an increase in suicidal tendencies from clients utilizing the Community Support Program. Mental health professionals believed the high levels of stress caused the marked increase in suicide tendencies.

The issue of uncertainty about the effects of the oil spill was believed by mental health professionals to be the basis for much of the increased stress and frustration in the community. The Director of the Mental Health Center attended public oil spill meetings to offer services for people who were frustrated and in need of someone to talk to.

The Kodiak Area Native Association (KANA) provides social services to native residents of Kodiak City and Borough and the six villages. KANA social services were heavily affected by loss of existing staff to oil spill employment and difficulty in replacing staff who had left for various other reasons. An increase in alcohol counseling services in Kodiak was reported by a KANA counselor. The need for more alcohol counseling in the villages was perceived by KANA alcohol counselors, but the people in the villages were unreceptive to on-site visits. Personnel at KANA felt that people in the villages were busy with oil spill jobs, and most service providers had left KANA positions.

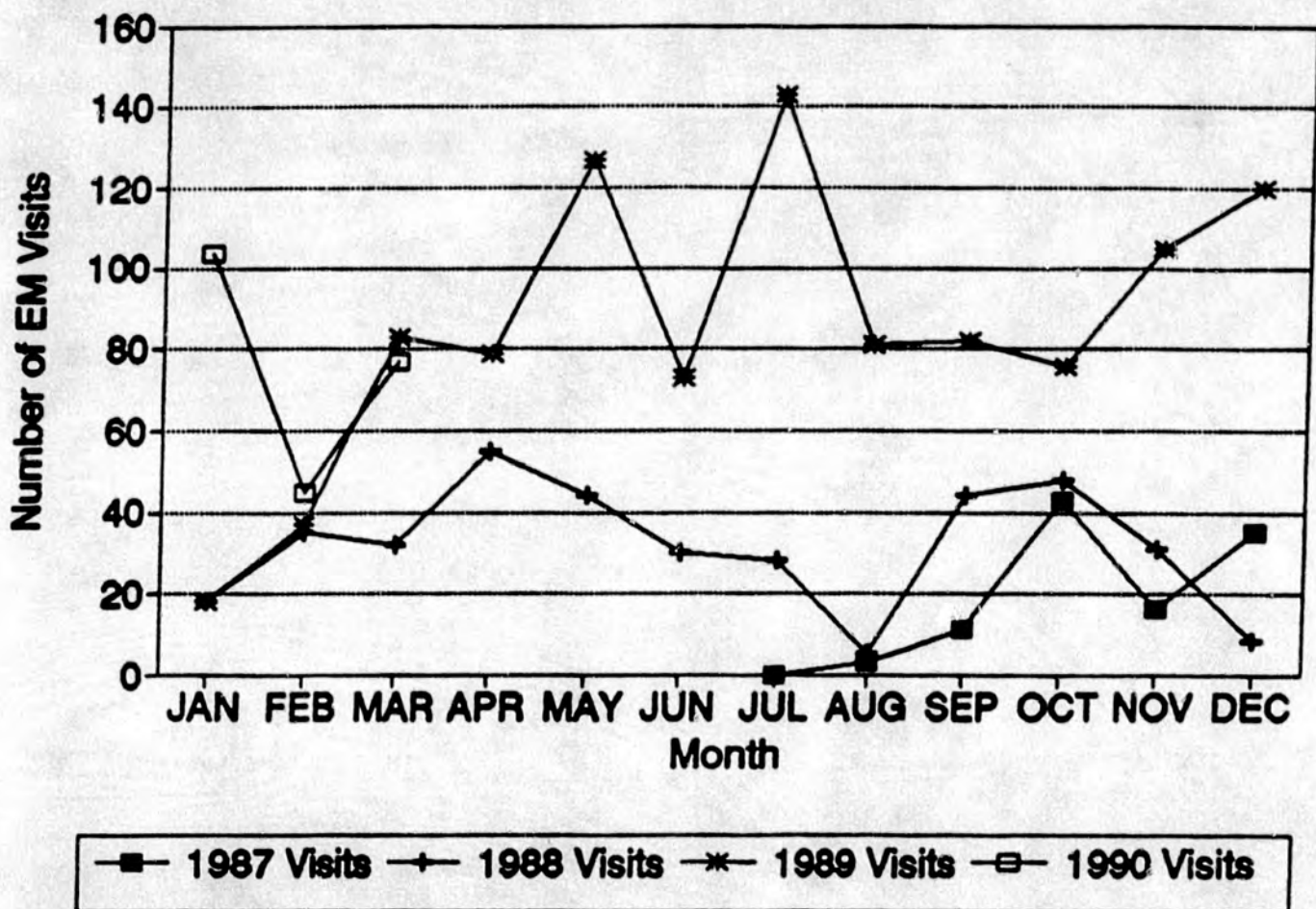
Kodiak Island Mental Health Statistics

Group Visits, 1987-1990



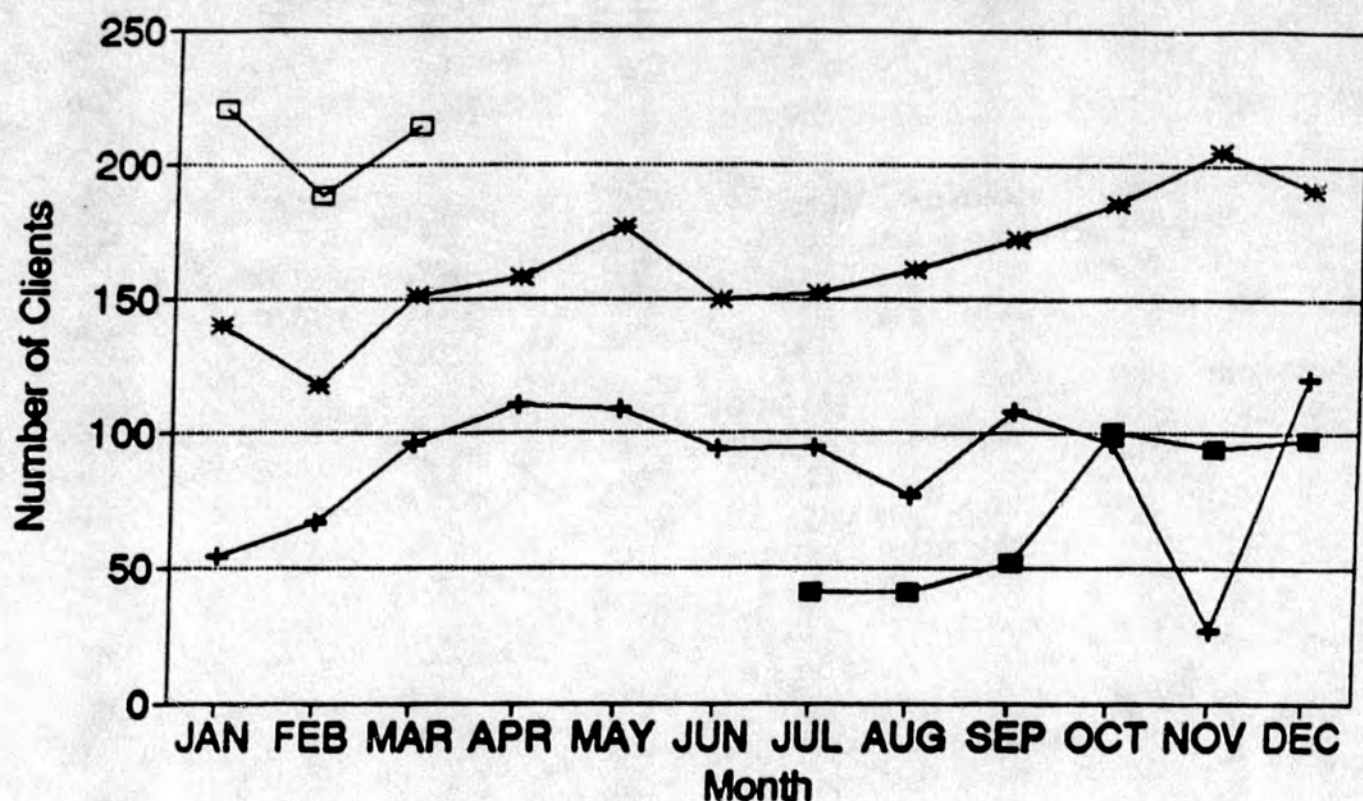
Kodiak Island Mental Health Statistics

EM Visits, 1987-1990



Kodiak Island Mental Health Statistics

Individual Clients, 1987-1990



1987 Clients
 1988 Clients
 1989 Clients
 1990 Clients

The influx of Natives into the city of Kodiak during the fall and winter of 1989 caused additional workload on KANA staff according to one social service worker. Some KANA employees stated that many Natives relocated to the city of Kodiak with oil spill cleanup money, but were faced with housing and financial problems during the winter of 1990 after their funds had been exhausted. They requested help from KANA services with rent, income tax and public assistance forms. The KANA social service employees worked with oil spill related social problems during the spring and winter of 1990. Assistance with forms requiring basic literacy skills was needed by some individuals who sought help from KANA social services. A new support group for children of families with problems was formed in the winter of 1990. Many of the Native youth attending the group were children of parents who worked on the oil spill cleanup.

Medical

Kodiak Island Hospital (KIH) is the only hospital on Kodiak Island. An increase in demand for emergency services was reported by staff at KIH. The emergency room staffing was restructured since the summer of 1989 to include a nurse on duty at the hospital for additional coverage since the summer of 1989.

A member of the nursing department noted increased problems with discharge planning for patients. Some of the patients had no place to go and hospital personnel had difficulty with releasing them without proper housing. This placed additional workload on social services staff at the hospital and nursing staff. Information on toxicity and oil related issues was given to people as it was requested in person or over the phone.

A nationwide shortage of nurses was a continuing problem for KIH before the oil spill, and the shortage continued throughout the summer of 1989. Difficulties in recruiting left the nursing department short of staff while some increased demand for services occurred. Demands on housing in the community were compounded by the oil spill, and any nurses who were recruited often arrived and were unable to find housing.

The Kodiak Area Native Association provides medical services for Natives in the city of Kodiak and the six villages. The medical services at KANA were severely affected by the oil spill according to the KANA Clinic Administrator. At least half of the KANA medical employees left their jobs during the summer of 1989. Some left for reasons unrelated to the oil spill, and others left to work for VECO. Replacements were unavailable for these positions and existing staff took on the tasks of three or four different jobs in some cases. Recruiting problems persisted until the winter of 1990. Many of the medical personnel that would normally have been available were working in the Prince William Sound area, according to one health care provider. During the field visit in winter and spring of 1990, KANA was still affected by problems with billings and finances that resulted from oil spill-related activities.

During the summer of 1989, KANA operated with one doctor and one mid-level practitioner. Normally there are two of each of those types of health professionals. The increased demand for services and the lack of available staff created an enormous amount of additional workload on existing personnel and made it difficult for clients to obtain services. Many of the clients who required service had to wait for long periods of time before they could get an appointment. Walk-in appointments were not available because of the lack of medical staff. The lack of available air transportation to and from the villages made it impossible for some village patients to receive treatment from the KANA clinic. KANA sent some medical staff to the heavily impacted village of Larsen Bay to assess physical symptoms that may have been related to oil spill cleanup.

The symptoms patients complained of were symptoms of lightheadedness, and others that could be associated with exposure. Sanitary conditions caused some concern because of oil spill cleanup workers who were eating on the beaches during long work days. Natives from outside the area requested services from KANA. Questions about food supplies poured into the clinic, and the lack of dietary and toxicology specialists in Kodiak made it difficult for KANA health professionals to provide answers.

Receptionists answered phone calls from the villages regarding oil spill concerns, and often patients who called needed reassurance from KANA staff. A health care provider from KANA stated that a substantial portion of the time of KANA medical staff was devoted to talking with people who needed someone to talk to. Patients were confused and worried about food supplies, damage to the environment and changes in their lives created by the spill and cleanup activities.

Changes in Personal Experience

Many residents of Kodiak resumed their usual lifestyle after the active phase of the oil spill in the summer of 1989. There were some, however, who report the spill has changed the way they perceive their environment. Some citizens spoke about the change in their complacent attitude, and have decided to become more involved in environmental legislation. Others stated that Kodiak is a resilient community and after having survived the 1912 Katmai eruption, and the 1964 earthquake, the *Exxon Valdez* oil spill was another incident in a series of catastrophes that the community has endured.

One individual's comments about personal lifescape changes follows:

I've lived out in the bush and the wilderness, . . . my kids have been raised in wall tents, and dories, and deer skin rugs, and fish drying . . . I've really lived in nature and in the environment . . . and so I kind of was an escapist . . . I thought the oil spill made me really sad, I had to be active for the rest of my life .

... It's like the rest of the world came to me, and said 'you can't run away any more.' We have covered too much in the earth and there is no place left to hide.

The Village of Akhiok

The village of Akhiok is the southernmost village on Kodiak Island. Residents are almost exclusively Native with little or no evidence of Russian or Scandinavian background, in contrast to the villages on the northern part of the island. The population fluctuates from approximately 60 to 80 full time residents. The primary economic activities are subsistence and commercial fishing and local government jobs. There are few permit holders in the village, and those who work as commercial fishermen generally work for others. The nearby cannery at Alitak provides some jobs for villagers. Alitak also operates a store which residents use to purchase food and supplies.

Akhiok is a second class city and operates both a Tribal and city council. The two governments cooperate on grants and programs for the village. Akhiok is more isolated than most of the other villages on Kodiak Island, and flights to and from Kodiak are less frequent than other villages. Many set net sites for salmon fishing are used by permit holders from other areas in the summer months. Family ties are maintained with residents from Old Harbor.

Response Effort

Akhiok was not exposed to as much oil as some of the Northern and Eastern villages on Kodiak Island. Oil was found in the form of tarballs in nearby areas. Direct effects of oiling were not easily determined by local residents and the question of uncertainty about damage to their environment prevailed even a year later. Nearby, Olga Bay remained open for gill netting. However, most of the fishermen from Akhiok are seiners and not allowed in that area.

Although the oil was not excessive in the area, a response effort and cleanup program operated by VECO was implemented. The sole volunteer attempt at cleanup was a set netter's group that worked for one day during the early part of the spill. Most of the residents did not believe the oil would reach their village, but there was always concern. One person remarked:

We weren't excited. We weren't overly excited. As long as it left us alone, you know, keep it away, keep it away. There were no big to do's.

The mayor of Akhiok during the summer of 1989 was initially contacted by Exxon regarding plans for response efforts. Later he became employed by VECO as an oil spill coordinator. The Village Public Safety Officer (VPSO) was not employed by VECO and remained in the

village during the active cleanup, despite the pattern of hiring VPSO's as coordinators on Kodiak Island. The city council denied permission for the VPSO to work on the cleanup.

The [ex] mayor continued to attempt to operate city business and run the cleanup program with VECO. He directed crews to different beaches according to their reports from the previous day's work. Foremen were rotated within the crew every few days. The crew foremen were not paid more than other beach cleanup workers, and few desired the position. As in other villages, problems with hiring local people, and accusations of unfairness towards the coordinator developed.

Communication through fax machines with VECO and Exxon officials was used for progress reports. The response was operated from a city office, in the community building. Exxon was billed for the lease of office space. The [ex] mayor wrote a top official during the summer of 1989 asking for cooperation and stating the willingness of the people from the village of Akhiok to work together with VECO and Exxon for a successful operation. He believes that the letter produced results and there were few problems in acquiring supplies.

Local Government

The effects of the oil spill on local government were disruptive to every day operations. Although the mayor tried to continue with daily operations, the main focus was the oil spill at local city council meetings. There are few city employees and most work part time. In some cases city employees kept their jobs and worked for VECO. The city clerk maintained the bulk of city duties during the active cleanup phase of the spill. The position of city administrator was vacated by a person who left the job to work for VECO. The city clerk assumed the responsibilities of administrator and clerk during the summer of 1989.

Many daily operations within the city government stopped, and at least two projects were postponed. The types of projects that were deferred involved erosion control, streetlights, community building improvements, and the construction of board walks for the fuel delivery. The JOBS bill, although extended by one year, was funded to provide jobs for community residents at a wage half of that of the cleanup operations. During the field visit in spring of 1989 city officials were concerned that it would be difficult to fill the positions to get the work done, even with the year extension.

The school suffered a loss of staff substitute teachers since the oil spill which continued throughout the academic school year of 1989-1990. One aide position was vacant for several months, and another aide assumed the duties of the extra position along with her regular job. She considered requesting restructuring of the job description because of the extra income. The difficulty in attracting village residents to be school aides was explained by a teacher:

Before the oil spill, a job at the school was something that everyone wanted, because it was steady employment and it was guaranteed for as long as you wanted it . . . Right now they're making a lot of money. They don't want to have to come up here and work at a job.

The income referred to was from DEC's "local response" winter cleanup. The "local response" winter cleanup was run by the current mayor who assumed his position in the fall of 1989. He stated that he became mayor because "no one else wanted it." Some city employees said that the "local response" cleanup operation was more efficient and better organized than the VECO cleanup. Although the program was designed to be separate from city government, during the spring of 1990 the city clerk was often the mediator between phone calls for the "local response" in the midst of her regular duties and the excess workload caused by the oil spill.

The Tribal government has had a history of working closely with the city government for projects to benefit the village of Akhiok. These grants are sometimes received through KANA. Some of the grants received through the Tribal government are suicide prevention and youth programs. The Tribal Council president was not employed by VECO and maintained his role as a solid community leader and Tribal council president throughout the cleanup.

A damaging impact of the oil spill on both city and Tribal governments in Akhiok was the loss of staff well versed in government management. A staff member who was an integral part of both governments became less active in government functions because of personal problems which some community members believe were aggravated by the stress related to the oil spill. The loss of skilled staff placed additional burdens on those who were not accustomed to some of the procedures involved with grant applications and management.

Changes in Community

The village of Akhiok did not experience more than the usual number of outsiders into the community in the summer. Set net sites from Olga Bay attract more people to the community seasonally. There was talk among residents about the disruption of community relationships from the cleanup effort and handling of the response. Many people in the village had been actively involved in a sobriety movement which faltered during and after the active cleanup phase.

Increased tension from more drinking in the community caused strained relations between those who maintained sobriety and others who did not. Many of the political problems that

developed in relation to the cleanup effort created discontent between community members. Some informants believed that the way the community functioned as a whole had been changed. One person described what she experienced and spoke on the sobriety movement and the effects of the oil spill:

The village got to be a whole family. Before, people would be against each other, and after the healing workshop sobriety movement, these people were one big family . . . but during the oil spill I noticed the village, that it's pulling away again, people started going into their own shells, and just pulling away. It was like people were mad at each other, they put a lot of stress on the workers. They were just at each other's throats, not agreeing with the people that were working in the office and having to deal with all the complaints that were coming in during the day.

After some people noticed that there were divisions within the community, there was a conscious effort to keep the community together. Alcoholics Anonymous (AA) had become less frequent, and more meetings were held. Visiting within the village to keep in touch was more frequent after recognition that the family and community atmosphere in the village was threatened. There are those residents who do not believe that the oil spill caused some of these problems but instead "added fuel to the fire," using the words of some residents.

Way of Life

The introduction of high wages for cleanup employment has influenced changes in the lives of the villagers. Specific damage to fishing grounds had not been assessed during the field visit of 1989, but it was known that the damage was less than some of the other more heavily oiled areas. The change in way of life in the village of Akhiok was the outcome of the lack of activity associated with subsistence activities, and not only the lack of food provided from subsistence resources.

Exxon and Kodiak Island Borough provided compensation for the close of fishing areas and damage to the villagers but the essence of the activities associated with subsistence activities could not be replaced. One account of this point follows:

Exxon was bringing in all this fish, but that's not our way. A part of the life style is going to be able to go out and get it, the fun of going out and getting it. You know a part of the lifestyle

is being able to go out and provide for yourself, that's our life. The fun is gone. To be able to go out and get your own fish, can your own fish, dry it. Where's the fun in it if they bring it to you?

Many community members have been employed over the course of three different cleanup programs. First the VECO operation, then the Exxon winter monitoring program which employed 8 people from the village, and finally the DEC "local response." Many people were happy to have the employment, but the change and the inevitability that on oil cleanup jobs will end has created concern that after the jobs no longer exist, many will have become accustomed to the paycheck and abandoned subsistence activities and commercial fishing. Some fishermen did not attempt to go fishing during the spring of 1989 because they were depending on oil spill cleanup work.

The life cycle and economic cycle changed from the spring of 1989 throughout the following year from one based on subsistence and fishing to oil spill-related income. Some people used the extra income to buy equipment, household goods, and items useful in the village. Others spent money on more trips to town [Kodiak]. Some people planned their vacations and town trips based on Exxon claims, winter cleanup money and the possibility of more cleanup work in August of 1989.

Family

Family life was affected by the amount of time parents spent away from their children on cleanup work. Of those who chose not to work on the cleanup, some concentrated more on family life. The sobriety movement had been a strong element in family life before the oil spill. Some parents were making progress in strengthening family relationships at the time of the spill. Through healing workshops and AA meetings they had begun to focus on family issues. Of those who had been sober for some time and worked on the spill, several parents knew that the time devoted to their children and family life suffered. Since they were aware of the need to be attentive to their families, many solicited the help of other residents to provide activities and care for their children. At least one family left for a family vacation at the end of the summer with the specific purpose of spending family time together that was lost during the spill.

One individual stated that more children had to rely on each other and themselves, and that the village life in the summer of 1989 was:

a lot different. Usually all summer long, their parents are around and . . . I worked here last summer with VECO, and last summer all the parents were working and the kids were left by themselves, ten and eleven year olds. All the adults were tense because as soon as you start throwing that, the money and all, into it . . . that was passed on to them. It was pretty tight for a while. It took some time to loosen things up and get back to semi-normal.

Two couples in the village separated and began divorce proceedings after some had begun drinking following years of sobriety. One person involved in a separation did not blame the oil spill for his return to drinking or divorce, but believed that the stress added to his life during the spill played a part in the changes in his family life. This incident of family disruption has had a major affect on the morale of the community. The people involved in relapse of alcoholism and breakups of families were looked upon with respect by village residents who mourned their return to drinking. They did not, however, let the verge of collapse within family structure affect their own lives. Instead they took control and maintained a steady move towards putting things back together for themselves.

Mental Health

In the winter of 1989 there was an increase in reports of child molestation cases in Akhiok. Some service providers explained that the movement towards sobriety and "healing" in the village emphasized the acceptance of children who expose these types of problems. Therefore, some children have become aware that it is acceptable for them to tell someone when they have been abused or molested. The Village Response Team (VRT) which is comprised of KANA employees and village residents, takes an active role in dealing with cases of child abuse and molestation and informs the proper authorities of abuse cases. There are at least four safe homes where children can go in Akhiok if they have been abused. One prominent community member who has been active in many community programs believes that there may be a decrease in child abuse cases, "just due to the fact that the perpetrators know that there will be something done, you know, and they're not gonna get off scott free like it used to be before." Any increase in reports of child abuse cases in the period following the oil spill could be the result of the movement towards acceptance of such reports, and may not necessarily represent an actual increase in abuse cases.

As already discussed, there has been an active sobriety movement in Akhiok for the last two years. This movement was started after one village resident committed suicide. The suicide

was reported to have been alcohol-related. The persistence of a KANA alcohol counselor was one factor that influenced the sobriety movement. Some people had maintained sobriety without treatment before the movement started. But, overall, there was a high rate of active alcoholism in the village before 1987. Several village residents boasted that 90% of the village was sober before the spill and service providers said that the rate of sobriety fell after the oil spill. There was no mention of use of other drugs in the village.

Since there was recognition that several village residents had begun drinking again since the spill, attempts were made to prevent other from doing the same. The conscious effort at preserving sobriety in the village was successful for the majority of residents. Those who continued to drink were often ostracized and sometimes went to Kodiak to drink rather than do it in the village. Not everyone who drinks from Akhiok is considered to be alcoholic, and social drinking without addiction occurs, according to one informant. Some people believe that the oil spill was a test for the sobriety movement in Akhiok and although it faltered, some parents stated that they became more dedicated to providing an alcohol free environment for their children.

The social services in the village revolve around AA meetings and extended family networks. There is a women's support group, the only such group among the villages of Kodiak. The community health representative took a leave of absence to work on the oil spill so her support group with teenagers quit functioning. However, other support groups and an atmosphere of service within the community has prevailed.

There has been an active suicide prevention program which emphasized cultural heritage through bead work and other projects that encourage pride in the Native culture. Both children and adults were involved in the reconstruction of a traditional kayak as part of a Cultural Heritage Program sponsored by KANA. The construction of a replica of a traditional barabara was ongoing during the summer of the oil spill, and although the project was slowed by the spill, there were enough participants to help complete the project.

The youth in the village took an active role in the programs they participated in. Often they planned, wrote grants, and administered programs with the aid of adults. There was an active youth council which held dances weekly in a multipurpose building. Money for such events was raised by the children themselves from a store they operated to sell snacks, and from mini grants from the Alaska Council on Alcohol and Drug Abuse. The dances continued throughout the period of the active cleanup with the supervision of adults, but some said they were less frequent.

Medical

There were three residents who maintained the position of health aide and alternate health aide throughout several years prior to the oil spill. The health aide during spring of 1990 reported no change in the types of problems she dealt with or the staff during the oil spill. There was a health professional assigned to work at the clinic in Akhiok for the health problems of cleanup personnel. This person operated from an office in the Akhiok clinic and worked for VECO or Exxon. The clinic is owned by the city which billed the appropriate agency for use of the facility.

Changes in Personal Experience

There were perhaps two major aspects of personal lifescape that changed as a result of the oil spill. One was a strengthening of the commitment to sobriety in the village. Several residents expressed fear that the village would revert back to the days when most people were drinking. Since the threat of breaking sobriety, and the disruption of family ties was so strong during the oil spill, some people may have become more determined that their children would not be surrounded by alcoholism.

Children voiced their opinions about the effects the spill on their family lives. They became more aware of their surroundings by a newfound interest in environmental aspects of education. This changed the way teachers approached education:

We've changed in the way that we approach a lot of things. The students are more aware. Before the oil spill, environment was a long worked that you found in science books. Now most of them know that environment is things around you. A lot of what you have to present now is presented in a different light, because they're a lot more aware and knowledgeable in those areas . . . It used to be when you mentioned the middle east, none of them knew where it was, and now when you mention the middle east, they say, oh, yeah that's where all the oil comes from . . . they're a lot more aware of everything to do with oil spills and cleanups and economics and things like that.

The Village of Karluk

Karluk is located on the west coast of the Southern half of Kodiak Island. The population of Karluk has been declining for several years and stands at approximately 60 individuals. It is the only village on Kodiak Island that is not incorporated as a second class city. Consequently, it has less services available to residents. The village operates a Traditional Village Council, also referred to as "Tribal Council" under the Indian Reorganization Act (IRA). Village services operate in conjunction with the Kodiak Area Native Association (KANA). The village was originally located on two sides at the mouth of the Karluk river. Floods in 1978 disrupted travel between both settlements and prompted resettlement to a nearby site on a hill away from the mouth of the river.

Karluk's economy is based on subsistence and commercial fishing. A lodge on the river opposite the village operates guide services for fishing on the world famous Karluk River. The area is famous for red salmon fishing. Family ties are maintained with Larsen Bay, and many residents have relocated to Larsen Bay. The village is a two hour skiff ride from Larsen Bay. Air transportation from the city of Kodiak and Larsen Bay is available.

Response Effort

Some of the people from Karluk felt they were last to be considered by Exxon for cleanup efforts. The Tribal council president was involved in meetings initially with Exxon, Kodiak Island Borough, and KANA. Contact with the village of Larsen Bay was maintained throughout the active cleanup phase. Larsen Bay was the most heavily impacted village on Kodiak Island, and their response effort included aiding Karluk with supplies and consultation. The Director of Community Development at KANA worked with both communities during the initial stages of the spill.

The Tribal council president was active during the early weeks of the spill and he tried to arrange for the provision of equipment and supplies to Larsen Bay and Karluk. Early flights with other Tribal council presidents from Kodiak Island revealed that the oil was moving south from Shelikof Strait towards Larsen Bay. Outlying beaches rich with clam beds were heavily oiled. The Karluk River was blocked off with boom, and any oil that may have entered the stream was considered minimal. Many residents from Larsen Bay go to Karluk for subsistence fishing and were able to catch their usual amounts of fish before the season closed. Many spoke of eating subsistence foods, but feared contamination.

The Tribal council president left the village for two months and the Village Public Safety Officer (VPSO) was assigned the job of coordinator for VECO. There was no official command station set up in Karluk, but the local school was used for some meetings. Initially residents of both Karluk and Larsen Bay intended to deal directly with Exxon, without working with VECO. However, they were eventually forced to work with VECO.

Local Government

The local government of Karluk is run by a traditional Tribal council. There had been a decline in services for several years before the oil spill due partially to a decrease in population in the village. All local government functions came to a halt during the oil spill. The Tribal council president put all of his time into oil spill logistics, and did not have any time to work on daily government activities. The jobs that the village controls are a heavy equipment operator, and a Tribal clerk. Both of these jobs were vacated due to employees who left to work on the cleanup. The school was unable to replace a janitor during the end of the school year because of loss of potential employees to the oil spill.

The most important grant lost since the spill was for construction of a lodge. The plans had been prepared by a former KANA employee who left the position at KANA during the spill. The village has not received the documents that were compiled for the project, and several village residents believed that they were intentionally taken from the village for use elsewhere. The start of an erosion control project was postponed because of loss of workers to oil spill cleanup. There were no capital improvement grants filed since the oil spill, because the Tribal council president became involved in oil spill related activities since the summer of 1989. Village residents stated that they have received the assistance needed to deal with the oil spill from KANA and other agencies.

Some residents expressed the desire to see local jobs provided through Tribal government, but the knowledge and education required to get grants and run programs was not always available from community residents. Because they did not get the assistance they felt was needed, some service providers stated that relations with KANA were strained, which affected other government programs.

Another major concern for the village was an ongoing problem with electricity. There had been some outside contractors who owned generators that furnished electricity for the village prior to the oil spill. During the summer of 1989, some problems with management of the electricity system and billings caused a backlog of bills for residents. The Tribal council president was involved in sorting out the finances for electricity and incoming fuel into the village. Although these may not have been considered government functions, as a leader he believed he was expected to take care of various tasks for the village. It is unknown whether the oil spill had direct impact on the problems with electricity and fuel in the village.

The DEC's "local response" cleanup was run by the Tribal council president who worked on arranging safety training and "six pack" courses in the winter and spring of 1990. Problems in training schedules and communication with Exxon, and DEC regarding regulations became a time consuming activity for the Tribal council president. A problem unique to Karluk, in comparison to other Kodiak Island villages, was due to its lack of status as a second class city. It was thus unable to pay for costs in advance to operate the "local

response" cleanup. This was part of the reason for the delay in starting the DEC "local response." The community looked to the Tribal council president as someone to arrange any oil spill cleanup jobs. Any problems that resulted from changes in the cleanup were often blamed on the president. This has caused increased factionalism within local government and tension within Tribal government. Many local residents who were displeased about current activities within Tribal government are at the same time unwilling to run for those positions.

Changes in Community

Several changes in social relations within the community transpired from oil spill-related activities in the community. The VPSO was accused of favoritism as coordinator, and personality problems that had been brewing were exacerbated by the relationships among beach cleanup crews. Eventually, the VPSO was fired from his job, which some residents said was the outcome of his drinking on duty, and the inability to get along and manage his crew. There has been no VPSO in the community since 1989, and incidents of crime have since been handled by State Troopers. Some community members expressed a desire to have a law enforcement officer present at all times.

Some informants felt that the relationship of village residents with leaders in the community was been damaged by changes that have resulted from oil spill cleanup activities. Many residents looked upon others who purchased new vehicles and all terrain vehicles with jealousy. Those who purchased new equipment often feel guilty for driving a new truck or four wheeler.

Some residents felt that outsiders who worked on cleanup crews were condescending towards locals. There was not a large influx of outsiders into the community, but some VECO employees worked in the area during the summer of 1989. Other strangers in the village included the various researchers doing oil spill related studies. The press in the past has given a negative impression on the village of Karluk and residents have become leery of any outsiders in the community. There is much confusion about the purpose of the various studies that have resulted from the oil spill. A local resident stated that the community sense of identity and control over their own lives was damaged by the attitude of the few strangers who treated them with no respect. There were reports of VECO employees illegally digging artifacts from local beaches. This type of invasion of community privacy made local people even more wary of strangers in the community.

Some former residents of the community returned to Karluk and became employed by local jobs that were vacated by those who sought oil spill cleanup work. There were more people taking trips into Kodiak with money earned from the various cleanup jobs, but no definite oil spill-related migration out of the community has occurred.

Way of Life

The oil spill provided jobs for Karluk residents who had been unemployed in years prior to 1989. This gave many residents the opportunity to try something new, like vacations to Hawaii, Seattle or Anchorage. But the oil spill also created an artificial economy and dependence on cash income that will not always exist once oil spill cleanup jobs are gone.

The Karluk River provides subsistence resources for many of the village residents. There were warnings about eating subsistence foods during the early part of the summer of 1989 and, although some continued to eat subsistence fish, there was fear of contamination. One person explained the importance of subsistence in Karluk:

The oil spill mainly hurt the community in the area of subsistence fishing. People of Karluk typically put their fish up in May and June, when the fish are running and the amount of biting bugs are lower . . . that was the time that the warnings against eating the subsistence products were coming out: eat at your own risk. So people were given some frozen and canned fish from Exxon, but they didn't really eat much of that. It was considered a joke by most of us. First of all it was not the same kind of salmon that people preferentially catch for eating here, and secondly it was not cured in the culturally accepted way. Thirdly, there was not enough freezer space here in Karluk to store all the fish that was brought here by Exxon. so some of it spoiled . . . and some of the canned salmon that they brought out sat outside and froze and thawed and froze and thawed, making in unappealing to eat.

The salmon referred to was donated with the effort of Kodiak Island Borough.

Money earned from oil spill cleanup work affected many Karluk residents' eligibility for food stamps. While the extra income was spent to buy enough food for families at the time, later, when the money was gone, some families had no money or food stamps. A resident explained the change in economy:

. . . there were a lot of people getting food stamps. But because of the oil spill cleanup, they had to get off. Then they couldn't get back on for a couple of months after. Just then, when people had all that money to spend, they didn't need them. But they had bills to pay, fuel bills, light bills . . . That

was really a hard time. For three weeks I was finding that the kids didn't have nothing to eat. You know some of the people here that normally eat good really dropped down. Then after the people started the cleanup jobs again with the DEC this winter . . . well that seemed to help people out a lot. And now that is ending, things will start happening again.

Family

The affect of the oil spill on family life was much the same as in other communities where the amount of time spent away from home increased for some parents. Not all families in the village were affected this way because, in some cases, one parent was at home. There were several instances where women who had not traditionally worked became employed by VECO and had the experience of earning cash income they may not have had before. Some people reported positive changes in family lives because of the material goods they were able to acquire with additional income.

The position of the Indian Child Welfare Worker who usually provides activities for children was vacant during the summer of 1989. Some of the high school aged children took on additional responsibilities caring for younger children while parents worked on the cleanup. During a normal summer, children are often free to roam outdoors on their own, but some community members believe that children were left on their own for longer hours during the summer of 1989. Others stated that there was not much effect on families.

Mental Health

Most of the village residents declined to speak about any incidents of domestic violence within the village. There were no safe homes provided the village for abused children or women. Service delivery for these types of problems was difficult for several reasons. First, there were ongoing problems with local residents in a small community being held responsible for the mental health needs of their friends and relatives. Residents have stated that they were uncomfortable talking about these types of problems within the community because of concerns about confidentiality. Some cultural traits that discourage people from talking about any personal problems also make provision of mental health services in small villages difficult according to some providers.

Distrust of outsiders is another reason that Karluk and other villages have not always welcomed services that deal with social problems in the community. There are some who said they believed that these types of issues should stay within the community.

Problems with services in the community have been exaggerated by the oil spill in some cases. The community health representative had made some progress with activities for teenagers in Karluk before she took a leave of absence to work on the spill. Eventually, she resigned from the position after two years at the job. Activities with the youth in the community were discontinued for part of the summer and the interest in resuming them was minimal after the summer of 1989. The position was inactive for several months before it was filled.

Medical

The former health aide reported that there was an increase some health problems which may have been caused by spoiled canned salmon. Overall, there were no other increases or changes in types of medical problems reported. There were some difficulties in obtaining medical consultation by phone from KANA physicians and health aide coordinator. Several different reasons have been stated for the termination of the primary health aide in Karluk during the summer of 1989. The health aide had been employed in that position for 20 years.

Changes in Personal Experience

The oil spill created some changes in the world view of Karluk residents. The exposure to outsiders had a positive as well as a negative affect on local residents. One person described damaged self esteem because of the way Natives were treated by VECO employees:

These people out here, their environment is them. I'm talking the social environment and the natural environment. And if either one's damaged, it damages the people itself, their self esteem. And I think there was a lot of self esteem damage out here the way the VECO people talked down to them, when they were working, like you know me smart white man, you dumb or something . . . So I think that had a real damaging affect on some of them . . . and it just built frustration up, and people start thinking well, who am I? This place might not always be here, anything could happen to this place.

In contrast to the idea of damaging of self esteem, some individuals believed that exposure to different kinds of people actually provided an opportunity for residents to learn more about their own potential. One person commented:

There were a lot of people around here that hadn't really talked to other people before. At least big shot people like came out here last summer. Some of them found they really enjoyed doing it. It really surprised me that they would do it because usually they are people we have never seen before, and they are some high muckety - muck people. And they talked to the people like they knew just as much or more than other people.

The Village of Larsen Bay

The village of Larsen Bay is located on the west coast of Kodiak Island. The total population is approximately 160 people and commercial fishing is the primary economic activity. A cannery operates seasonally and people from around the country are employed there in summers. Some tourism and guide services are available for fishing, hunting, and hiking. The village residents are mostly Native with some Russian, and a large influence of Scandinavian background from immigrants who came to the area to work in the canneries in the 1940s. Larsen Bay is a second class city and a city and Tribal council operate within the village. The village is accessible by airplane or boat transportation from the city of Kodiak. Family ties with the village of Karluk are maintained.

Response Effort

Larsen Bay was the most heavily oiled of all the villages on Kodiak Island. The oil reached the area in the form of mousse and tarballs along the shorelines, and underneath the surface of the water in the area. A sheen of oil reached the mouth of Larsen Bay. The tides carried oil into the beaches in front of the village and the surrounding coves. The village mobilized volunteer forces for cleanup before Exxon, VECO or the Coast Guard moved in to help protect the area. Local clam beds and fishing areas were affected. During the first weeks of the spill village officials contacted these outside agencies who assured them that "it was going to be taken care of," according to one local source. Progress of the moving oil was monitored by television news, local news sources and contact with agencies in Kodiak.

Soon after residents began finding oil along the beaches, the volunteer effort began. Containers from the local cannery were used along with other resources to collect oil. One village official reported:

the whole village got together and they kind of mobilized and they decided they were going out to do something about it . . . with no contract or anything . . . In fact they worked for a whole week . . . they didn't wait for any money . . . that's our livelihood, you know and we knew we were going to be hurting real bad.

The mayor began negotiations with Exxon and quickly appointed the Village Public Safety Officer (VPSO) as coordinator for the cleanup operation. Initially, there was difficulty convincing Exxon that oil had reached Larsen Bay. Local city and Tribal government officials wrote letters and made phone calls to the KIB, state politicians, and Exxon representatives to demand that they contribute resources and hire local boats for cleanup.

After negotiation with Exxon they agreed to assist in a cleanup operation at Larsen Bay and sent boats from Kodiak to monitor the area.

The coordinator contacted a former Kodiak Area Native Association (KANA) employee in an effort to secure supplies needed for cleanup. The supplies were delivered to the village promptly, despite problems the former KANA employee encountered with logistics and purchase orders. Survival suits, life jackets, radios, and other needed materials arrived. When Exxon began full scale cleanup operations the local Larsen Bay cleanup effort was already in tact. VECO personnel arrived shortly thereafter. A command center was set up in a community building with communication systems and maps. Contact with other Kodiak Native villages was maintained throughout the active cleanup phase.

Safety meetings were held weekly and the community voiced their opinions and concerns about the cleanup. The coordinator explained the meetings:

Mostly I would tell them what was going on. Tell them what a good job they were doing, what we were doing, what Exxon was doing, what VECO was doing, and if something was wrong I would talk to them about it and see what kind of ideas they could come up with . . .

At the end of the summer, the coordinator left the position for family reasons and another person replaced him for the last few weeks.

Local Government

Almost all of the city employees left their city jobs to work on the oil spill. The mayor became involved in Oiled Mayors meetings and few people were left in city positions. Those who stayed in their jobs were unable to take vacation time because there were no alternates to replace them while they were gone. The library was closed, and almost all city functions stopped.

Council meetings were delayed because of the lack of a quorum for three consecutive months. City projects were postponed because of the lack of personnel. One major project that was delayed during the summer of 1989 was the "mini hydro project." The city had acquired a loan to construct a hydroelectric power plant and the materials had already been ordered before the oil spill happened. Delivery of the materials which included several miles of pipes for the project, turbines and generators was interrupted by the lack of available boats for delivery. After a barge delivered the materials to the city, there were no available workers for the project and the supplies were unused during the summer of

1989. The project was further delayed because potentially available personnel were working on other cleanup jobs throughout the winter of 1990. Another project that was halted was erosion control of lands in the village.

Both the city and Tribal governments were involved in negotiations and claims with Exxon and VECO. The communication between the two governments was strained by the oil spill. One local resident explained that the Tribal government was involved mostly with Exxon, and the city was dealing mostly with VECO. Problems with billings for the use of facilities caused tensions between the city and Tribal government, and there has been reorganization of the Tribal government since the summer of 1989.

The DEC "local response" cleanup program operated independently from the city offices in the spring of 1990 with separate staff and facilities. The program employed many village residents for cleanup of local beaches.

Changes in Community

Many of the changes in community relationships centered around the hiring of boat and skiff charters and beach cleanup crews during the summer of 1989. People spoke of jealousy about the amount of money people earned from the various jobs associated with the cleanup, but many reported that those types of disagreements were not long lasting. A common source of disagreements and arguments among crew members was accusations about the amount of oil different crews were picking up. Crews members who believed they were working harder because they collected more bags of oily waste than others argued with the coordinator, or others, that the other crew members were not working enough. A sense of competition around the amount of oil collected developed between cleanup workers.

Some tensions arose regarding the hiring of outsiders who were often related to village residents. The policy in hiring was originally for locals only, but several friends, relatives, and former residents of the village called requesting jobs. As the oil continued to be found in the area, the hiring procedure was changed to employ whoever was willing to work, even if they were outsiders. Some resentment about this practice caused tension within the community. Some fishermen who reside in Washington and base seasonal fishing operations out of Larsen Bay arrived later in the summer seeking boat charters for oil spill cleanup and were often disappointed when they were not hired.

Some of the relatives who came to Larsen Bay during the summer of 1989 to work on the cleanup have remained in the community and become active in local government and village functions. One such resident had left the village for seventeen years and felt the need to return, "I really can't explain it, but I just, there was something here that made me realize that I needed to be here, and you never really know what that is."

Some of the factionalism that resulted in the community between Tribal and city governments has also caused divisions within the community. Disagreements about the distribution of salmon received from the Kodiak Island Borough and Exxon took place within the community. During the field visit in the spring of 1990, there was no consensus about whether these divisions would be prolonged. Some residents believed that there had already been underlying tensions among those who had disagreements related to the oil spill.

Way of Life

Commercial fishermen holding permits in Larsen Bay changed their yearly cycle of activities throughout the year following the summer of 1989. Not only was their fishing lifestyle interrupted because of the original cleanup effort, but the cycles in pay schedules for Exxon's winter monitoring program and DEC's "local response" differed from average annual income. The Exxon winter monitoring program employed residents to look for oil in areas around the island during the winter of 1989-1990, before DEC's "local response" effort began. Some people who leased charters acquired the task of sorting through income tax and employer reporting requirements. The amount of bookkeeping for individuals and families who engaged in oil spill cleanup work was more than the average village resident was accustomed to.

An uncertainty about the coming fishing season created hesitation among some local fishermen and they expressed a lack of enthusiasm about preparation for the season of 1990. Others were anxious to resume fishing activities but were concerned about contamination of their fishing gear. Some fishermen were troubled about the prospect of market prices for the fishing season of 1990.

Subsistence food has been an important part of family and community relations in Larsen Bay, as in many Native villages. Many of the younger residents of Larsen Bay provide subsistence food for elders by travelling to Karluk to catch salmon. The clam beds of the area were oiled, and during the field visit in the spring of 1990, some residents were still reluctant to eat clams. Seal, deer, ducks, and other game were hunted by some local residents and shared with family members. One service provider commented about the attitude towards subsistence foods:

you would have to speak to them individually on that [subsistence foods] because people don't talk too much about them, everybody is using them . . . going down to the beaches . . . but a lot of times in their minds when they're actually eating that stuff, sometimes a person can lose their appetite [and] that kind of thing. You get that funny kind of feeling, you know.

Some community members purchased new four wheel all terrain vehicles, outboard motors, "skiffs," and other household items with money earned from the cleanup. Commercial fishermen were able to upgrade their equipment in some cases. Others took vacations to places outside of Alaska.

A new lodge opened in the village which offers visitors fishing, sightseeing and hiking opportunities in the area. Previous lodge accommodations have focused primarily on fishing and hunting guide services. One resident used income earned from VECO employment to help fund the lodge.

Family

Along with changes in the way of life of the overall community, came changes in family life in Larsen Bay during the summer of 1989. Children had less parental supervision during the active cleanup stage while most parents worked long hours. Many of the elders, who would normally have served as babysitters, worked on the cleanup also. Older children took care of younger children in cases where there would have usually been an adult present. The Indian Child Welfare Worker who provides afternoon activities for children was absent during the summer of 1989. When child care was available through a private person, prices were sometimes inflated compared to pre-oil spill levels.

Some of the teenagers who normally fish with their parents were unable to fish or work on the cleanup because of 18 year age requirement. Not only was expected income lost, but the canceled fishing season and absence of family life left older teenagers in the village to provide their own entertainment. One teenager reported that she was unable to attend college as planned during the fall of 1989 because she did not earn the money she had expected from fishing.

Mental Health

Some residents believed there was been an increase in domestic violence in the community since the oil spill. An informant explained that women in the village often look forward to the fishing season when their husbands are not home. Having the men at home during the summer when they were accustomed to being out of the house caused stress within the household which some think has led to increased domestic violence.

The position of community health representative (CHR) was vacant during the summer of 1989. Although village residents do not commonly talk to others about their problems, the CHR works with senior citizens, counseling, and drug and alcohol problems. The CHR position was filled in the fall of 1989. The Village Response Team (VRT) was comprised of KANA employees. The VRT did not hold regular meetings during the active cleanup

phase. The senior meal program was inactive during the summer of 1989, and resumed in the spring of 1990.

Some Alcoholics Anonymous meetings were held twice weekly during the summer of 1989. The group was small and often attended by people from the community who had left and returned for oil spill jobs. After the summer, the meetings were discontinued. There is no consensus about the notion that there was an increase in drug and alcohol use in the community following the oil spill.

Some service providers believed there was more drug and alcohol use among youth during the summer of 1989. One attempted suicide by a teenager occurred during the summer of 1989. The youth was a child of a parent working on the cleanup. There has been a reported increase in the number of suicide attempts since the oil spill, but no definite statistics to verify the increase in attempted suicide.

Medical

Health care delivery in Larsen Bay operated with one health aide and no regular alternates during the summer of 1989. There were three alternates during that summer who left the position. After the summer ended, a nurse from outside the community was hired as an alternate health aide. This was the first reported case of a nurse from outside Larsen Bay who worked as a health aide in the village.

The health aide worked more hours because of oil spill patients in the summer of 1989, and she treated people from outside the community. She became responsible for different kinds of health issues such as advice about subsistence foods. The standard advice about the safety of clams was: "If you dig up clams, soak them over night, if you see any kind of sheen on the water, don't eat them, and don't eat the liver or the vital organ of the deer or halibut."

During the summer of 1989, time was spent contacting patients' regular doctors by phone for consultation. Concerns about liability of treating non-Natives were reviewed with the supervisor from KANA. VECO had Emergency Medical Technicians on the job sites to work with VECO employees.

Medical problems commonly treated were upper respiratory problems, headaches, sprains, and back problems. The toxicity of the oil itself was a subject patients were unfamiliar with and carelessness in hygiene sometimes caused health problems. A health aide noted:

one person [that] said that they didn't wash their hands,...had oiled hands, ate a sandwich and got very sick and threw up after eating the sandwich. They really didn't realize how toxic it was,

Changes in Personal Experience

The way villagers from Larsen Bay look at the world around them may have been changed by the events following the Exxon Valdez spill. Some feel that they have a different perspective because of the money that came into the community and others expressed thought about their physical environment.

A Native of the village commented:

The changes might not be immediately noticeable, but the money that people got changed their expectations, changed their perceptions of possibilities, what they could do, their perception of opportunities, what they were worth, etc. It gave them exposure on the news, you know, so yeah, I would say it had, at the very least, several changes in the psychology, and it probably had some equal changes in the social structure . . .

The Village of Old Harbor

Old Harbor is located on the southeastern portion of Kodiak Island and is protected from the Pacific Ocean by Sitkalidik Island. The population fluctuates around 400. The community economy is based on commercial fishing and a number of residents are active in subsistence activities. The village is divided into three parts all of which are within a mile of each other. The older section houses are inhabited by many of the senior residents, and the other two sections are newly constructed. Most of the residents are of Native descent, with Russian and Scandinavian influences. The village operates as a second class city and has a city government, and a Tribal government which operates through the Kodiak Area Native Association (KANA).

Ties with the village of Akhiok, which lies south of Old Harbor are maintained where nearby fishing sites are used by subsistence permit holders from Old Harbor. The cannery at Alitak, near the village of Akhiok, has maintained a long standing business relationship with fishermen from Old Harbor. Commercial fishing relationships with Kodiak are common, and many of the commercial fishermen from Old Harbor operate out of the Kodiak Harbor.

Response Effort

When the oil spill occurred, the mayor of Old Harbor and several other fishermen left to go fishing in Kodiak thinking it was highly unlikely that the oil would reach Kodiak. "No way in our wildest dreams did we ever think it would touch Kodiak. we figured with all the modern technology...I even assured my people not to worry," he stated. Some preparation was made with two boats and a few booms during the early stages of the spill before it was known that the oil would reach the shores of Kodiak Island. The Tribal council president flew with other Tribal presidents from around the island to monitor progress of the spill. She became coordinator for the VECO cleanup effort and operated out of the city-owned Tribal Office building.

The physical oiling of the area around Old Harbor was less than the heavily oiled villages of the western side of the island, but some oil did threaten local salmon streams. No organized response effort took place until after the Exxon and VECO cleanup began. The Tribal council president and a city council member kept track of the spill by air charters and began negotiations with officials in Kodiak.

The Village Public Safety Officer (VPSO) employed by VECO to be in charge of safety and supervision. He maintained contact with the VPSO in Ozunkie in an effort to help the flow of supplies to Old Harbor. The confusion of roles between the Tribal council president, who acted as coordinator, and the VPSO caused some conflict.

When the mayor and other fishermen returned from Togiak, the cleanup operation was in the peak of activity. The majority of boat charters and cleanup crews had already been hired and some fishermen who missed the second salmon season because the fishery closed were unable to get charters or cleanup jobs.

The coordinator had no experience managing an operation similar to the cleanup effort. She commented:

that first day . . . came in and said ok you're going to need . . .
. and gloves, liners, garbage bags . . . right down to how many
pairs of gloves does it take for one day's work, how many bags
does one boat use verses a skiff, beach crew etc.

Old Harbor was not a major cleaning station, and not many outsiders came into the village related to the cleanup. The coordinator had some unfavorable experiences with supervisors from VECO who accused her of "operating on Native time." Contact with both VECO and Exxon was maintained throughout the active cleanup phase. After the active cleanup was over, the coordinator left Old Harbor to recover from the stress she experienced in the summer of 1989 she then decided to relocate permanently.

Local Government

The oil spill and cleanup operations disrupted both city and Tribal governments. The city government dealt with oil spill related issues from the summer of 1989 throughout the winter and spring of 1990. Although not directly involved in supervision of the cleanup itself, the mayor was called upon constantly to answer questions about the spill, especially residents' concerns about subsistence foods.

It was often difficult for local government officials to identify those agencies involved in testing of food sources, and faith in the results of the tests was lacking during the field visit in May of 1990. The mayor discussed a common theme around the island concerning the uncertainty about subsistence testing:

I think there were two different Exxon agencies and there was
another agency that came in, and you know, they would make
checks and they dug clams . . . but they report themok, but you
know oil is still floating and still coming in . . .

According to a city council member, regular government functions were not usually very active during the summer fishing season, but because the fishing time frames were predictable, council meetings could be scheduled in advance for weekends. Regular meetings were either canceled or rushed during the active cleanup phase. Council members working on the cleanup were too tired to discuss city business at length according to one source. There were problems when a city employee was denied his request to work on the cleanup but took an unauthorized leave despite the council's position.

Contact with Larsen Bay for information on billing rates for office space was ongoing. The mayor tried to charge rates for use of city facilities that were comparable to the other villages on the island. He felt that each village was treated differently by Exxon and VECO.

The city of Old harbor had no regular full time staff except the city clerk during the summer of 1989. The clerk worked part time on the cleanup, but said that it did not affect her job with the city at the time. She has said that the oil spill correspondence has been an additional workload throughout the year since the spill took place. The DEC's "local response" cleanup was directed through the mayor's office during the spring of 1990, with the aid of the Tribal council president. The program employed many local residents.

Construction of the school was underway when the cleanup activities occurred in the summer of 1989, and, although some employees were lost to VECO employment, the facility was completed by fall. Some school employees worked on the cleanup, but no significant staff loss was mentioned. There was some delay in public assistance for housing repairs which were postponed until the summer of 1990. A comprehensive plan for Old Harbor was in progress with the KIB, but was delayed during the summer of 1989.

The mayor of Old Harbor did not participate in many Oiled Mayors meetings because of the expense of travel. There was some miscommunication about reimbursement from the KIB regarding Oiled Mayors meetings, and due to low operating funds he decided not to participate. The increased workload on the mayor's office was demonstrated during the field visit in May of 1990 when a fax was sent to the office asking the mayor to be responsible for hiring two people for Exxon jobs for the summer of 1990. The request from Exxon was that two people be chosen for the jobs within two days from the received fax. This type of request was not common for the mayor and created a different role for his position.

Tribal Government

The Tribal government literally stopped functioning during the summer of 1989 because the Tribal council president was consumed with her duties as coordinator of the activities. The Tribal council president was active in enrollment of members into the Tribe before the summer of 1989. There were problems prior to 1989 keeping an active Tribal government

and, for the six months prior to the oil spill, the president made progress towards activating Tribal government. Since she was the main person familiar with the various grants, programs and policies of the council, her absence from the position entailed complete dysfunction of the Tribal council and programs.

There were few people in the village who understood the system of grant writing and procedures during the field visit. Both the city and the Tribal governments complained of lack of assistance, knowledge and time allotted to submit grant proposals. Reporting requirements, bookkeeping, and general administration of programs are all necessary parts of maintaining services within Tribal government. The new Tribal council president began working with KANA in the winter of 1990 to reorganize the Tribal affairs. The position of Tribal clerk was advertised during the spring of 1990 and reorganization of the Tribal government. A Tribal representative reported that the position was funded by Exxon in compensation for some of the problems created by oil spill and operation.

Some individuals stated that there was conflict within Tribal government, city government and the Native Corporation during the active phase of the oil spill. Some of the members belong to several of the local organizations and when one governing body had difficulties, it often caused problems with relations between them.

Changes in Community

The community did not receive the influx of newcomers experienced in other villages - VECO and Exxon supervisors were the only ones. The opinion of several residents of Old Harbor was that those employees were condescending towards them and were not helpful or cooperative.

Some experiences with the media were displeasing to the coordinator. The press from Kodiak was judgmental about the comments made by the coordinator during interviews, and she finally had to discontinue any contact with the press. A local television interview took place that highlighted the affect on Native villages.

Many of the differences between residents over government matters were prompted by oil spill involvement. Some people felt that the coordinator used her position of power to the advantage of her family and friends. She believes that she did the best she could to be fair. The responsibilities placed on key leaders in the community may have widened existing splits within the village. During the field visit there were some individuals who believed that it was time to move on with their lives rather than dwell on the past.

The distribution of canned salmon donated by Exxon and Kodiak Island Borough to residents caused some complaints in the community about favoritism. A local school teacher who had an adopted child from the village received what some considered more

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than her share. The intent was supposedly to feed other children who didn't always have lunches at school, but friction and accusations of biased distribution of the salmon resulted.

The most extreme case of inequity of claims settlements encountered in the villages on Kodiak Island occurred in Old Harbor. As reported by several citizens, two young high school aged boys received an estimated \$80,000 in claims for new fishing permits they held. Many of the older fishermen in the village received low settlements by comparison. They observed as the young men received large amounts of money. One of the local fisherman explained his feelings about the situation:

I've seen these young kids, you know I don't begrudge any fishermen, I think everybody would have a piece of the pie, but when you see a kid with a \$13,000 new truck, I had a hell of a time buying the kids school clothes.

The Native Corporation assisted in filing claims for fishermen who often lacked the literacy skills need to fill out forms.

Way of Life

The disruption of the fishing cycle was a recurring subject among residents interviewed during the field visit in spring of 1990. There is a sizeable commercial fishing fleet as well as much use of subsistence foods in Old Harbor. The commercial fishermen are often connected with boats from Kodiak, and some of the highliners were able to receive charters for the summer. The local fishermen who fished the first season and then returned to Old Harbor expecting to be hired on charter were too late. Most of the boats had already been hired and they were unable to fish or get charters. Some didn't want any involvement in activities and kept hoping the fishing season would open. One person described a friend who spent his first summer in the village after forty years of fishing:

He'd come in to the office, and it got to the point where I ~~would~~ almost cry when I'd see him come in. He'd say, 'I ~~wanted~~ this to be a good season' . . . he was going through a lot of emotional sort of stuff . . . he literally was like a fish out of water.

Some fishermen said they could see fish jumping in the water. Being forbidden to fish was especially hard for these individuals. Some change in the species of fish caught were reported by one individual. He reported:

... people are starting to get into cod, because you know, the oil spill make everybody start using everything they had to made up for the lost salmon season ... nobody was fishing for cod, because it was 78 cents a pound, and you know, after the oil spill closed everybody had big boat payment, and they tried to do everything to make up the payments. I see three or four boats cod fishing, and nobody cod fishes here, but they were out cod fishing.

Not only did the economy of Old Harbor change for the summer of 1989 because of closure of the fishing season, but some city officials believed there was a heightened awareness of other economic development potential for the community. A new lodge was under construction during the summer, and although building was stopped temporarily because of lack of funds from fishing income, the lodge was completed and opened in the winter of 1990. The lodge was originally intended for government and public assistance workers, but the prospect of tourism became more appealing to lodge owners since its opening. A new cafe opened in the lodge, and some villagers were more accepting of the economic benefits of tourism compared to the past. Some of the other economic endeavors considered were a fish processing plant and a gift shop. Some citizens were concerned that without aid and guidance in economic development to individuals with lower income levels, the wealthier village residents would be the sole beneficiaries of future economic development.

Family

The extended family has played an important in the village of Old Harbor as it has in most villages role on Kodiak Island. A teacher's description of family life follows:

the extended family is used traditionally, where the kids will stay with aunt or grandma and be nurtured and well taken of . . . they can go to their grandparents, but if they're downtown or uptown they can stay with relative. The idea that there is always food out, if you want any help everybody offers to eat, or tea or coffee and want to visit.

While this is one person's view of family life, some informants stated that underlying friction between some families and within some extended family networks was magnified by tensions from oil spill-related affairs.

The impact on children in the community was much the same as other areas where the time that parents spent with their children was often much less than an average summer. One person commented:

There wasn't you know, picnics and stuff like in the summer people would come home, they would go out and they would go to the lakes and to go to swimming, we used to have a lot of summer picnics, berry picking . . . and you would think they looked forward to it but it wasn't there. Mom and Dad were tired and come home and go to bed, grandma's cranky, stuck with the kids and stuff like that, you know the kids didn't have the attention, it was sad.

Teenagers who typically fished with their families were left on their own without many activities to occupy their time. Men who were normally out of the village fishing every summer found themselves in a foreign environment in their own village. Their wives were unaccustomed to the change of having their husbands home. Some of the women were accustomed to going on vacation with other women from the village and didn't get that opportunity because of the change in family life in the summer of 1989. In some cases having the men home allowed the completion of some odd jobs and chores around the house, and more participation in things like gardening.

Mental Health

Residents were reluctant to talk about domestic violence in the village, although there have been incidents reported in the past and since the oil spill. Some believed that alcohol use increased in the village after the oil spill, and others felt that it was inappropriate to blame an ongoing problem on the spill. Still others felt that with the increase in money in the community and fewer activities to occupy their time, some people began drinking more. A few have stopped drinking on their own in the past, and usually relied only on family and self for support. The influence of the church has played a strong role of support to individuals with alcohol problems. A priest who returned to the village in August, 1989 after several years away was considered a primary counselor for personal problems and alcohol abuse.

An increase in juvenile offenses involving alcohol was reported during the fall and winter of 1989. Not much consistency with drug and alcohol programs existed in Old Harbor in years prior to 1989, however there was an active attempt by the former community health representative (CHR) and the Tribal council president to hold Alcoholics Anonymous (AA) meetings before the spill. The effort to hold meetings was disrupted by the oil spill. An

effort by KANA to provide services to the community was also interrupted by the spill. Village residents formerly involved with alcohol and drug counseling were overwhelmed by oil spill workload and other problems in the community. Visits from counselors from KANA were not welcomed during the active cleanup phase. The same was true of some other services, according to some service providers.

The position of CHR had been vacant for around three months when the oil spill occurred. The replacement for this position was not hired until fall of 1989. Most programs for social services are operated by the Tribal council or KANA and were discontinued during the summer of 1989.

Four deaths occurred in the village of Old Harbor during the summer of 1989, according to service providers. At least two of the deaths were documented suicides. Another death was attributed to a stroke, alcohol or suicide. One death was attributed to alcoholic seizure. Three of the four deaths took place within weeks of each other. The fourth was in August. The first suicide was less than a month after the spill.

While these suicides were not attributed to the oil spill in interviews, this dis-proportionately high number did occur within six months of the accident. The deaths added to the already chaotic summer of Old Harbor residents. A young man said to have been in his mid-twenties jumped off of the city dock. A community leader spoke about the incident:

I accidentally witnessed on . . . within two weeks of the spill a guy jumped off the dock. By the time I got to him . . . he was underwater for two hours, by then the whole village was down there on the dock just looking. It's so awful because 2 and 3 and 4 year olds were down there. It was a cruel thing.

This person had a history of suicide in the family according to a local villager. There had been two other suicides in the family in the past.

The other death of question was a man who "fell" off of the dock. One person who witnessed the event said a stroke caused the person to fall into the water. Another account relates the incident to alcohol. The other definite suicide occurred in August when a man with no history of suicide attempts in the family killed himself with a shotgun. The psychological impact of several deaths in a small village cannot be ignored, especially when some of them were suicidal.

Besides the fact that suicide is a sensitive subject, there are other reasons that people may be unwilling to recognize deaths as suicide. Possibly the most important of these is the religious practice of ostracizing the body of the suicide victim from burial within the church

cemetery. Several people have said that the Russian Orthodox church will not acknowledge the death.

During the time of the suicides, a suicide prevention program had been underway as a result of a history of suicides in the villages of Kodiak Island. The suicide prevention coordinator was witness to one suicide and one death from alcoholic seizure. Guilt relating to the failure of the program coordinator to prevent the suicides prevails in that individual today.

Medical

The position of health aide was vacant for most of the summer. There had been a stable health aide for around two years before the spring of 1989. When the previous health aide resigned before the oil spill for personal reasons, replacements for the position were inconsistent. New health aides vacated the positions during the summer and it became impossible to attract villagers to the position because they feared the large responsibilities associated with the recent deaths.

In an effort to encourage locals to apply for the position of health aide, two nurses were hired by KANA and city of Old Harbor. During the field visit in the spring of 1990, they worked alternate positions with schedules of one week on, and one week off duty. At that time there had been little interest by residents in applying for the health aide positions. The possibility of a former health aide returning to the village and resuming the position was under consideration at the time of the field visit. One of the nurses described the philosophy, "The original idea was to bring other Native health aides forward, work with them, give them more of a sense of self-worth."

A new clinic was under construction in the village during the spring of 1990. Construction of the clinic was halted because of lack of funds in the summer of 1989. The interruption of construction was not related to the oil spill.

Changes in Personal Experience

Many different events transpired in the village of Old Harbor since the oil spill. Not all could be directly linked to the oil spill. However, some residents believed the spill caused changes in the way they perceive the world.

One fisherman spoke of hatred:

Bitter feelings, especially someone I don't know, I hate hating them. Probably if I met them, they're probably decent people. I believe that these people should have come to the village themselves instead of sitting back writing a bunch of forms. They more or less told us how to live our lives . . . They should have come out to the village and talked to the people, instead of sending their lower, I think their higher ups should have come out. Maybe they would have gotten a handle on the situation.

Another comment illustrated how the spill changed the view of the past of one individual:

I don't think that we'll ever forget it. It's changed the way we talk. I know that it's going to be, 'before the spill and after the spill.' Previously it was, 'before the tidal wave and after the tidal wave.' Now it's had that much of an impact that we're going to be talking in terms of, 'before the oil spill and after the oil spill.'

The Village of Ouzinkie

The village of Ouzinkie is located on Spruce Island, one of the smaller islands that comprise the Kodiak Island group near the northeastern tip of Kodiak Island. The village is the closest of the Kodiak villages to the city of Kodiak, and easily accessible from Kodiak by a twenty minute "skiff" (small boat) ride or 7 minute airplane flight. Air flights are also available from Port Lions. Ouzinkie is one of the only two villages on Kodiak Island that has not been relocated. Family relationships with residents from nearby Port Lions are common. The population is primarily Native, with a mix of Scandinavian and Russian backgrounds. Commercial fishing is the primary economic activity of the village, and subsistence activities are an important part of village life. Commercial fishing ties with Kodiak and Port Lions are maintained. The total population of Ouzinkie is approximately 220 residents.

The village is a second class city within the KIB. An active Tribal council operates programs for the city of Ouzinkie with the aid of the Kodiak Area Native Association (KANA). The city and the Tribal governments often work together on projects for the benefit of the community. The Ouzinkie Native Corporation is located in the village of Ouzinkie, and owns much of the land surrounding the area.

Response Effort

The initial response to the oil spill from Ouzinkie differed from that of other villages for several reasons. The Ouzinkie Native Corporation took an active role in response during the early stages of the oil spill. The president of Ouzinkie Native Corporation began contacting lawyers and specialists from Anchorage during the first three days of the spill. A consultant with prior experience in oil spill cleanup was hired through the Native Corporation. The consultant then advised the mayor of Ouzinkie, the president of the Native Corporation, and the Village Public Safety Officer (VPSO) on procedures for cleanup. This included information on construction of boom, acquisition of materials, and communication equipment.

The VPSO had some background in disaster training and was familiar with communication systems and safety procedures. The disaster training had not prepared him for the specific tasks of oil spill cleanup, and the consultant proved to be a valuable resource. The Native Corporation president attended public meetings in the city of Kodiak, and spoke with Exxon officials during the early stages of the spill. Early samples of oil found near Ouzinkie were sent into Kodiak for testing. According to one local informant, Exxon referred to the oil found around Kodiak Island as "unknown oil." Local residents were extremely frustrated by the lack of acknowledgement about the existence of oil around Kodiak Island.

The Ouzinkie Native Corporation began taking measures for cleanup with the city and Tribal governments. The Corporation owns and operates a logging company on a nearby island and labor and resources were utilized from the logging company. Logs the city had stockpiled from airstrip construction were also used to build boom. Other supplies were ordered from Anchorage with the aide of the consultant. The costs for materials and labor were paid for by the Ouzinkie Native Corporation and later reimbursed by Exxon.

Subsistence areas were prioritized for protection and boom was constructed around important beaches with clam beds and salmon streams. The location of Ouzinkie on a small island exposure to the Shelikof Strait made the island more susceptible to oiling. Oil came into the area in the form of thick mousse and tar balls and mixed with ~~shell~~ and kelp on local beaches. The oil permeated into the sand and was found by beach crews in layers underneath the surface. The strong winds and currents carried oil into the coves and beaches around Spruce Island. Commercial fishing areas were closed.

When VECO came into the community and began cleanup operations, much of their boom and materials were already in place. VECO set up a command center in the Native Corporation building and leased some space from the Tribal Offices. A Coast Guard representative joined the VECO command center. Close contact between the Ouzinkie Native Corporation, the VPSO who worked for VECO as Coordinator, and the city government was maintained throughout the active cleanup phase. The lottery method was used for the hiring of boat charters and beach crews.

Safety meetings were held daily by the VPSO, and the public was encouraged to participate and voice concerns about the cleanup. Concerns about toxicity of clam beds, and fumes from garbage bags were discussed. Untimely removal of garbage bags filled with oil caused concern among residents about the gases that accumulated in the bags and posed threat of combustion. Masks were used to protect the workers from fumes.

The president of the Native Corporation worked almost exclusively on oil-related issues during the summer of 1989. The city government and village residents supported his efforts, however he also received complaints about problems with boat hiring and VECO workers. Communication with VECO and Exxon and with government agencies such as the Department of Environmental Conservation (DEC), Kodiak Island Borough, the Alaska Department of Fish and Game was ongoing. There were contradictory test results about the safety of fish and wild game from the various agencies involved in testing of subsistence foods.

In mid summer of 1989, because of problems with VECO employees and local cleanup personnel, the city of Ouzinkie and The Ouzinkie Native Corporation wrote a letter to a head VECO official demanding that VECO contact the VPSO for communication regarding all oil spill cleanup issues. According to a city official, the results of that letter combined with pressure on VECO representatives at meetings in Kodiak produced satisfactory results.

One VECO coordinator in particular was helpful in acquiring the supplies and action that were needed for an effective cleanup effort.

Local Government

Activities of the city government were disrupted by the cleanup but key personnel maintained employment. Some of the office personnel worked part time on the cleanup, and an effort was made to allow employees the opportunity to work on the cleanup if they desired. The city council granted leaves of absence for most of the city employees to work for VECO and they returned to their positions during the fall of 1989. Plans to submit one grant proposal for renovation of the fire house and airport remodeling were deferred because of the loss of assistance from a council member who was busy with oil spill work.

In the spring of 1989 some of the school aides left their jobs to work on the cleanup. During the academic school year 1989 - 1990 the principal of Ouzinkie school reported that several children no longer qualified for the free lunch program at school because of increased income from oil spill cleanup employment.

Additional workload was placed on the mayor who worked with the Native Organization in communicating with outside officials about oil spill-related issues. city council meetings were less frequent and there was difficulty obtaining a quorum. One council member left the position to work on the oil spill. One of the people who had worked closely with the city in grant writing and project development left the position to work for Exxon during the summer of 1989.

The DEC spring cleanup put additional stress on the city clerk during the spring of 1989 because of bookkeeping and communication requirements. One office worker talked about her dilemma:

Well, it seemed like I would be trying to do everything, but it just seemed like you'd be rushing through it, you'd just throw it in a corner somewhere, and say you'll get back to it . . . just rushing through everything . . . instead of filing it, you'd just put in a pile for filing later . . . things that needed to be done . . . wouldn't get done . . .

Training for first aid cards and "six pack" licenses organized through the city government and any questions concerning regulations related to oil spill cleanup were directed through the city offices. Because of the additional regulations required as a result of the oil spill, many of the local residents looked to the city for advice on the best way to acquire the "six pack"

licenses and safety cards needed for beach cleanup jobs and the operation of skiffs to carry passengers. During the field visit in spring of 1990, telephone calls and correspondence regarding oil spill issues continued to be a part of the workload at the Ouzinkie city Office.

There has been an active movement for disaster planning in Ouzinkie since the oil spill. City government had previously worked on plans for a disaster plan with the aid of Kodiak Island Borough several years earlier, but no formal action had been taken. Several community members attended a public meeting in May of 1990 and began planning for an emergency response plan. The types of disasters that had been presented in VPSO safety training prior to the oil spill lacked any instruction about oil spills. Community members present at the meeting discussed types of possible disasters to add to the standard disaster plan presented by the VPSO. An active interest in the welfare of the community was evident at the meeting. At a disaster training meeting in the Spring of 1990 with VPSO's from other parts of Alaska, contributions from those who had been active in the oil spill events were made to overall disaster planning.

The Tribal government has worked closely with the city of Ouzinkie for grant proposals and community projects. One Tribal council member resigned from his position because of an Exxon employment conflict. Some expertise was lost for grant writing and administration of projects because of the resignation of a council member. The Tribal council government remained inactive for several months, but there was no mention of specific grants lost as a result. Tribal employees took leaves of absence from their jobs or resigned during the spill. Most vacant positions were filled during the fall of 1989.

Changes in Community

The most commonly noted change in community relations was the inequity of distribution of crew shares from Exxon. Some residents reported that they did not receive any crew shares from Exxon because they were not listed as crewmen by a boat captain. Some stated that captains who would have hired them as crewmen claimed family members instead, consequently, crew shares were given to family members who would not normally have fished. Some of the alleged captains reside outside of the village of Ouzinkie, but there was some conflict within the community regarding distribution of crew shares. The crewmen who did not receive any settlements at all suffered severe financial loss.

Other changes in social relations within the village were related to hiring. At first, community members who were not hired complained about unfair hiring practices. Through the lottery method and a conscious effort to provide employment opportunity to those who desired employment, some of the tensions were eased. The assignments of crew foremen caused some friction between people who were not accustomed to taking orders from friends or younger relatives.

Some fishermen said they were willing to start over and forget the past, while others believed there would be ongoing strains in relations. Informal verbal agreements were common arrangements for crew hiring. Fishermen who did not receive crew shares had no proof they would have worked on a particular boat. One fisherman talked about his feelings about the distribution of crew shares:

there was nothing vicious about it, the point is this: we're stuck, ok. Some of these people that did that . . . we have a feeling about our relations . . . a lot of people are related . . . I'm not gonna go and file suit against my brother-in-law over money, we don't usually do things like that . . .

The village of Ouzinkie has had a history of uniting against outside control. When people were asked if there was anything special about Ouzinkie that makes it resistant to something like the oil spill, some responded by explaining they have always taken control of villages affairs. A village official spoke in this regard:

We don't have to jump every time one of them says do this or that and I believe that's the reason we're different . . . we realize that we don't have to be dominated by the white people. If we have something to say, we're gonna say it, you know, we're just as good as they are and there is no reason that we have to do everything they tell us to, and I think we feel that if there is anything that has to be done, we should make the plan out ourselves, and do it.

The increased sense of social solidarity between the Tribal council, the Native Corporation, the city council the VPSO, and the villagers was mentioned by most of the informants. Some were concerned about the lasting effects of inner village conflicts, but most residents interviewed believed that things were "pretty much back to normal."

Way of Life

The closing of and damage to subsistence fishing areas prompted the Ouzinkie Native Corporation to draft a proposal with the aid of Kodiak Island Borough and the Alaska Department of Community and Regional Affairs (DCRA) for compensation for the loss of subsistence fishing. The proposal requested that Exxon pay for the cost of boats and supplies for local fishermen to travel to Southeast Alaska and fish for their own salmon.

The original proposal requested compensation for other types of sealife and wild game. The proposal was denied by Exxon, but with the aid of a Kodiak DCRA representative, a modified proposal was submitted to the state of Alaska and funded.

The subsistence grant funded by DCRA was helpful in providing food resources that were lost because of the oil spill, but the timing of the arrival of the salmon was late in comparison to an average year. Precautions for weather conditions had to be considered for any curing and storage of salmon that would have otherwise been routine. Some of the salmon was stored in a community freezer building. The activities associated with subsistence lifestyles were lost during the summer and fall of 1989.

Concerns about subsistence issues were voiced by representatives from the Native Organization and city officials who were not satisfied with the reporting of test results back to the community. One official recounts a public meeting with representatives from various agencies:

I wish you guys [from outside agencies] would get together and pool you information, so we understand what is what rather than four or five different answers . . . nobody would commit themselves and say that it was safe . . .

Another important concern discussed by residents during the field visit was the long term affects of subsistence foods. One individual stated his opinions on the subject:

I'm talking about a daily diet of food that we eat. And you're telling us to go back to our way of eating . . . I said remember Agent Orange? For the next ten years, I'm going to be healthy, but what happens after? After the stuff is in your system . . .

The long term affects of deer, ducks and other game as well as fish were issues concerning local residents, and some curtailed hunting activities because of local sightings of dead deer on the beaches.

Only a few residents continued to garden in the traditional way with the use of kelp as fertilizer before the summer of 1989, and gardening activities were non existent during the summer of 1989 because of reports of contaminated kelp. It was unknown if the few residents who normally garden resumed the practice in the summer of 1990. Many of the residents who participated in gardening were senior citizens.

Many fishermen worked on the DEC "local response" cleanup through the winter of 1990 and were still uncertain about the fishing season during the spring of that year. Fear about the rise of oil to the surface and the closure of the fishing season posed a sense of passiveness about the coming season. Some dependency on oil spill-related jobs changed the way some residents viewed employment.

Family

Typical family life was changed during the active cleanup period. In some cases, both parents worked long hours during the active cleanup period. A few teenagers who worked as babysitters but some community members said that young children were being cared for by older children. The Indian Child Welfare (ICW) program, which usually provides afternoon activities for children, was suspended during the active cleanup phase of the spill because of cleanup employment. One person's account of family life during the summer of 1989 follows:

People didn't have family lives during the first period, because they worked so many hours a day, and in most cases it was a man and a woman and they were so tired when they got home that they went straight to bed. They were up and gone early in the morning . . . there was no social life. Nobody went out. There was no place to go . . . you didn't want your kids on the beaches.

Some residents spoke of divorce and separation during and after the active period of the oil spill but no cases that were specifically caused by the events of the spill were named. A change in gender roles was described as the cause for some of the family problems by one resident. The women who worked on the cleanup in many cases did not have much experience with employment outside of the home. The money earned by women and the time spent away from the house changed some family structures for the summer of 1989, and may have changed their overall perspective. One single mother became accustomed to earning a living and sought full time employment. Consequently, she acquired the confidence to stay employed which released her from dependency on public assistance.

Mental Health

The position of community health representative (CHR) was occupied by the same person for two years prior to the oil spill. The CHR took a leave of absence from her job in the summer of 1989 and resumed the position in the fall of 1989. The CHR provided

counseling, assistance to the elderly and senior meal programs, and other social services. There was some effort towards starting Alcoholics Anonymous meetings in the months prior to the oil spill, but none were actually initiated.

One respected community resident entered treatment for alcohol rehabilitation after the active cleanup ended. This person believed that the stress created during the oil spill prompted the decision to seek help. Several residents requested that the returning citizen hold AA meetings in the community.

Service providers reported an increase in domestic violence during the spill. There was also an increase in the number of attempted suicides according to one provider. One attempted suicide occurred during the spring of 1990, a few weeks before the field visit to Ouzinkie. The attempted suicide was committed by a person with a family history of suicide. It is unknown whether the suicide was related to effects of the oil spill.

There is a large population of seniors in the village consisting of 29 elders. Senior meal programs were suspended during the summer of 1989, and the senior cook took a leave of absence to work for VECO. Some residents said that they felt regrets for the lack of attention that both senior citizens and children received during the active cleanup period. Children's programs and the senior meal program began functioning normally in the early part of the fall of 1989.

Medical

The primary health aide in Ouzinkie had held the position for 32 years by 1989. She usually had an alternate health aide to assist at the clinic, but the position was vacated during the summer of 1989. The alternate left to work on the cleanup, and this position was not filled until several months later.

More illnesses related to stress and overwork were treated during the summer of 1989. The health aide reported that "people [were] exhausted from the hours they were keeping and they would be susceptible." Severe sunburns were reported, but no marked increase in medical problems were noted.

Some patients went to the clinic feeling sick but had no specific symptoms, and/or related illnesses. The health aide spoke about some of her experiences with patients during the active cleanup phase:

Sometimes it was a matter of telling them that they were working too hard, they're not giving themselves enough time for anything but work and that's why they were feeling this way.

It's not something that's [was] really physically wrong. And the mothers, of course, working from seven in the morning until seven in the evening...

Advice about the use of subsistence foods was also given through the clinic, although this was not the only source for such information. Residents who worked on the cleanup stated that they sometimes had headaches from the fumes from the oily waste.

Medical consultation from the health aide coordinator or physician at KANA was not readily available because of increased workload on the KANA medical staff. In many cases decisions were made without consulting medical staff. Fewer visits from doctors to the village and fewer referrals to KANA in Kodiak were made because of the limited medical staff available.

Changes in Personal Experience

The world view of residents of Ouzinkie may not have necessarily changed, but the conviction of residents to maintain control of their lives and community has possibly been strengthened. Suspicions about the state and Exxon's use of a new technique to stimulate growth on oiled beaches called bioremediation was illustrated in the following quote:

I feel like it's another slap in the face because . . . what's going to happen in the future . . . they're just toying with this stuff, the oil spill's bad enough but when you spill something on top of it, and you have no idea what the future's going to bring from it . . . I think that's crazy.

In another case an official spoke about outside control:

I felt intimidated by the fact that they could impose themselves on us and our land and on our way of life, with total disregard, with total disrespect of the leadership of each community, in which we have lived here all of our lives . . . we're able to handle our own affairs. So the total intimidation was that some of the agencies thought that we couldn't have our own affairs.

The Village of Port Lions

Port Lions is located on the northeast section of Kodiak Island. At 40% Native and 60% Non-native. Much of the population is comprised of people with Russian and Scandinavian ancestry. The village was built in 1964 for the residents of the neighboring island of Afognak after it was destroyed in the earthquake and tidal wave that year. Many residents of Port Lions maintain ties with Ouzinkie and Kodiak due to their close proximity, extended family networks, and commercial fishing relationships. The primary economic activities of the residents are commercial fishing, local government jobs, and tourism, including guide services for hunting and fishing.

The village operates as a second class city and has a population of about 300 people. The Tribal council operates local community services with the aid of the Kodiak Area Native Association (KANA). Some residents are members of both the city and Tribal councils. Port Lions is accessible by air flights from Kodiak and Ouzinkie.

Response Effort

Exposure to the oil in Port Lions was sporadic. The oil came into the outlying areas in the form of tar balls or mousse patties with varying degrees of density and size depending on the tides and other unknown factors. The oil also mixed with sand, gravel, and kelp on the beaches, and often was not visible on the surface. This made it difficult to target areas for cleanup. Local clam beds used for subsistence were damaged, and some local salmon streams were affected.

Port Lions' response to the oil spill was influenced by several key community leaders during the initial weeks of the spill. The mayor worked closely with Kodiak Island Borough in coordinating plans for the response effort, including the construction of log booms. However, he left to pursue commercial fishing in another area and appointed a council member as acting mayor in charge of spill operations. In early April the Village Public Safety Officer (VPSO) was appointed as coordinator for the cleanup operations.

The local cleanup effort began with a handful of volunteers. When Exxon, then VECO, took control of the cleanup operations, some of the original volunteers became paid employees. Some confusion and animosity arose between the VPSO and the city council while both were in contact with officials from VECO and Exxon. The acting mayor dealt primarily through Exxon, and the VPSO was a VECO employee. The lack of consistency between Exxon's communication with the acting mayor and VECO's interaction with the VPSO led to various problems with cleanup operations and community relationships.

City and Tribal Officials maintained contact with other communities to learn about how the cleanup effort was handled in affected areas such as Cordova and Valdez. A working

relationship with the neighboring village of Ouzinkie was ongoing throughout the summer. Progress of the spill was monitored by plane flights taken by city and Tribal officials during the early stages. The movement of the oil was also monitored with maps received by fax from the Kodiak Island Borough and the Coast Guard.

During the early weeks of the spill people used their own equipment, boats, and skiffs to work on cleanup. A resident of a neighboring bay assisted by offering instruction on how to build log booms. The booms were constructed with the use of city equipment from trees that were felled from city property. When equipment was finally received from Exxon, there were problems with the type and size of equipment sent.

Decisions regarding areas to be protected were coordinated with Ouzinkie residents to maximize the effectiveness of their resources. Before Exxon or VECO assumed control of the cleanup operations, the Ouzinkie Native Corporation took an active role in oil spill response and invited Port Lions to join in a response effort. Port Lions declined to become involved in joint purchase of any cleanup equipment because they could not afford to pay in advance for costs for supplies.

Representatives from both communities joined together to request supplies from VECO offices in Kodiak. The VPSO explained his efforts and frustrations:

We represented Port Lions and Ouzinkie in one meeting, which was the first time that happened . . . There's strength in numbers . . . Ouzinkie and Port Lions showed up there together. So yeah, we got answers . . . we didn't get it all . . . they really, really needed to justify sending it out to us. I wasn't asking for helicopters, I wasn't asking for trucks, I wasn't asking for some type of a fancy food concession stand. I was asking for garbage bags, I was asking for shovels, I was asking for cable, I was asking only for what we really needed.

Many of the local boats were leased to Exxon and local people were employed for beach cleanup. Complaints by community members who did not get hired eventually led to use of a lottery system for choosing employees. Even after the hiring system changed to the lottery, there were protests about unfairness in hiring practices. Residents felt they should have had more control over the cleanup operations in their community and the surrounding areas.

The coordinator resigned from his position with VECO in late June for various reasons. He was frustrated with the problems in dealing with VECO and Exxon to acquire equipment, manage personnel, and exchange information with supervisors who were

changing constantly. He also felt he had neglected his duties as VPSO and his first commitment was to that job. He did continue to occasionally work on the cleanup effort and helped to dismantle the program.

Local Government

Both the city and Tribal governments were heavily impacted by the oil spill and related cleanup operations. VECO and Exxon officials operated out of the city offices and disrupted normal daily activities. Meetings were held almost daily and officials from various agencies often gave no advance notice when they expected to hold city council meetings. Communications with the Tribal and city governments with outside agencies such as the Coast Guard, Department of Environmental Conservation (DEC), Exxon, VECO, and the Kodiak Island Borough were not coordinated between agencies or local governments. The city clerk was called upon to hold meetings and was forced to stop regular activities to keep up with day to day cleanup meetings, communications, and correspondence. The clerk described one day in particular:

Coming in at eight a.m. Sunday morning when Exxon demanded a meeting . . . I'll never forget it . . . I was already frustrated because the council hadn't had a quorum and hadn't adopted the budget and all this work I was trying to do in the middle of the whole mess, basic city work wasn't being taken care of and that's what I mean the whole basic city operation came to a standstill . . .

Exxon and VECO's use of city offices displaced city workers from their desks and equipment, such as copy machines and phones. City employees were used to build log booms with city equipment, sometimes on the payroll of the city. Although some of the labor costs were reimbursed by Exxon, the amount of bookkeeping increased due to the additional labor hired. The number of W2 forms to be filed in 1989 increased to six times the average amount. Much of the paperwork required for employees that were hired on the cleanup created additional work for the bookkeeper, secretary and city clerk and continued through the fall of 1989 and winter of 1990.

Almost half of the city employees quit their jobs or took a leave of absence (sometimes unauthorized) in order to work on the cleanup. Those who did keep their jobs with the city while working on the cleanup often had difficulties keeping up with city work because of the long hours put in for VECO. The harbor master, who did not work for VECO but for the city, spent part of his time running city equipment to build log booms and therefore spent less time keeping track of harbor activity.

The library lost all of its assistants and substitute staff, which created additional work for the librarian. When the librarian left for the summer because of family matters, no trained substitutes were available to work. Volunteers from the church helped run the library, and various untrained people worked sporadically. Other problems resulted from non-residents using library materials that were never returned and maintenance being neglected because of a lack of labor.

The city dump was overused from an additional amount of waste from consumer products due to the increase of people in the community. Garbage collection increased to double, sometimes triple, the normal amount. A new position of a permanent, part time maintenance person was added to the staff in March, 1990 because the city's previous practice of hiring temporary labor was no longer functional. Since the summer of 1989, the city of Port Lions had been unable to find temporary help at the wages they offered, so the council felt the only alternative was to create a new position.

City council members were often absent or not available for meetings because of cleanup employment. Some council members took a leave of absence for the summer which created some animosity and factionalism within the council. Other problems developed within the city council regarding decisions about hiring. The council became divided on a number of issues that were oil spill-related. One prominent council member left the community in the fall of 1989 for personal reasons including dissention within city and Tribal governments.

Several community projects were postponed due to lack of staff. The building of a new community hall was stopped after the foundation had been constructed. A project for replacing all of the old water and sewer lines in the center of town was also halted. City dock repair funded by the Job Opportunities in Basic Skills (JOBS) bill was postponed. A proposal for a Community Development Block Grant was late in preparation because of the additional oil spill-related work load the city office was still suffering from in March, 1990. The mayor and city council members have continued to spend much of their time on oil spill issues since the summer of 1989.

The "local response" cleanup effort began in March 1990, funded by a subgrant from the Kodiak Island Borough and administered under the supervision of the Department of Environmental Conservation. A separate office was set up to run the cleanup. This office was more organized in response efforts than was the case last summer. To participate in the spring cleanup, residents were required to pass safety tests and receive "six pack" licenses allowing them to charter boats. The regulatory requirements for "six pack" licenses caused city offices to become indirectly involved in organizing training sessions. Many residents complained that the "six pack" license gave outsiders who were more likely to be educated and accustomed to taking tests an unfair advantage. The local fishermen believed that they were more qualified to carry people in their boats than someone who has simply passed a safety test. The fishermen are knowledgeable about the tides and currents, know the

underwater topography, and are able to maneuver around the local coves and straits easily, but some have difficulty passing written tests.

Tribal Government

The Tribal government which manages most social services through KANA for the city of Port Lions was severely affected by the oil spill. The Tribal council president was involved in initial flights from Kodiak Island to Prince Williams Sound with Tribal Leaders from other villages. She was active in city government response and was also a VECO employee. She left the community in the fall of 1989, and the position of Tribal council president was vacant for several months. The newly elected president found it difficult to learn the necessary skills needed for completing grant applications and for administration when she assumed the position in March, 1989. The Tribal clerk, who was familiar with the job and the council's various programs also left the position. Her replacement was overworked because of the accumulated tasks, and left the position after a few months. Examples of grants that were lost, halted, or not pursued were the suicide prevention grant, an Administration for Native Americans grant, and a youth grant.

The Tribal council president requested technical assistance for help in reorganizing the Tribal council which stopped operating during the summer of 1989. She noted, in particular, the need for assistance in communication skills for Tribal council members. In her words: "we're drastically looking for training or technical assistance of some type to rebuild."

Changes in Community

Many of the changes that took place in local politics as a result of oil spill response inundated changes in social relations among community members. People who had active roles in response were often alienated from others in the community. According to some informants, disagreements were commonplace. This was true not only between people who worked on the cleanup, but also among friends and neighbors who did not participate in the cleanup. Many community members believe the disagreements were a result of stress and long hours of work. Others thought that jealousy and greed over money caused the disputes.

Some divisions within the community were related to oil spill response. Because some people felt the oil would definitely reach the area while others did not, there were disputes about the way the response was handled. This continued throughout the summer, and some people believed the oil had more serious consequences than others. Some relations among the younger, less experienced community members who became leaders during the spill were strained because of the role of authority in the cleanup. One supervisor commented on his position:

They felt that I was trying to, I guess, show power or something. They felt that I was trying to tell them how it was going to be, when they felt that as a city council they should be telling me how it was gonna be . . .

Other fissions in the community occurred between those who chose not to work for VECO and those who did.

Migration out of the community was a common theme discussed in Port Lions. According to city staff eight to ten families left the area after the summer of 1989. While some of this out-migration was a result of staff changes at the school unrelated to the oil spill, one resident described the oil spill as, "the straw that broke the camel's back." Three of my best friends left," he said. Some left because the money they earned gave them the opportunity to try something different. During the field visit in March of 1990, local citizens expressed concern for their children's education at a public meeting. They feared the loss of families in the community would result in less school staff and a poorer quality of education for their children.

One incident that illustrated a positive community effort was the banding together of the residents of Port Lions to prevent an incinerator project from being implemented nearby. An area near Port Lions was chosen for the floating incinerator which would have burned oil contaminated waste. Other potential sites had been rejected because of potential damage to wildlife and the environment, but the residents of Port Lions were worried about their own health. The community felt that decisions were being made about their lives by outsiders with no regard for the opinions of those who would be most affected. After city officials had numerous meetings with Kodiak Island Borough staff, representatives from Ouzinkie, and reporters, the project was halted and the floating incinerator was sent away before it was able to begin operation in the area.

Crime during the summer was mostly in the form of juvenile and alcohol-related offenses. DWIs were handled by the community health aide or the VPSO who would be sure to escort the drivers off the road safely.

Way of Life

Disruption of the yearly cycle of commercial fishing and subsistence was pervasive in Port Lions. People were unable to have family picnics either because family members were working on the cleanup or the beaches were oiled and inaccessible. One resident described his experiences trying to get to his cabin by a nearby river with his two children, "We tried to go in, and the whole bay was blocked off. You couldn't get by these log booms..."

Experiences such as this disrupted the important social elements of the lifestyle of Port Lions' residents such as fishing, clam digging, and berry picking.

The safety of subsistence foods was a major issue for residents. Because the appearance of oil was sporadic, the testing of portions of beaches was not considered completely valid by several residents. During the field visit, people were concerned about their food supply, especially clams, and although some continued to eat the clams, the unknown factor of long term effects and general toxicity was always present. One person described subsistence concerns:

There's no telling to what degree that shell fish is tainted. Until you get some real comprehensive results back, from all the testing going on, they could go into a clam bed and take a sample here, and a sample here, and not get any tainted clams, but fifteen feet over here, where a couple of mousse patties sat down and went and sunk into the ground a little bit, you're gonna have a section of tainted shell fish.

Some residents stated that food costs went up, because of a decrease in subsistence food and increased prices at the local store.

Hunting was curtailed because some deer had been seen eating kelp from the oiled beaches and people were afraid the meat would be toxic. Consequently, some residents went to other areas of the state to hunt, asked relatives from other areas for subsistence meats, or began depending more on processed meat.

Gardening is another family activity which was abandoned for the summer. Gardening was affected because the kelp used as fertilizer was contaminated, and the fear of further contamination caused people to abandon the practice for the summer. This lack of garden foods had an impact on food supplies. Few families garden in this traditional way and those that do are often older residents, but the importance of this impact should not be overlooked.

Vacations were affected because city employees and others were unable to take their planned vacations and when they were able to leave, they returned to extra work that had accumulated due to the spill. Travel plans were interrupted because planes in and out of Kodiak were monopolized by cleanup-related travel. One local resident was unable to see her husband who was out fishing for several weeks because she couldn't hire a charter to get out of town.

Some local people believe that the "six-pack" license will change the economy of the area such that those who have their licenses will depend on the charter business. This could affect the economic structure of the area which had limited charters and outfitting businesses in the past. Those who operated charter operations would be forced to maintain licenses. If they were unable to pass the tests their businesses would suffer. Some people reported six or seven attempts at passing the test for a six pack license.

The wages paid by the cleanup effort and subsequent state cleanup have changed the perspective of residents regarding employment. Several positions remained unfilled in the community because people were unwilling to work for wages of \$10.00 to \$12.00 per hour. In March of 1990 many people were depending on future cleanup work for income, and still believed there might be another major cleanup with high wages in the summer of 1990.

Family

The change in lifestyle for the summer especially disrupted some of the younger high school children who were unable to fish with their families and earn money. They were not old enough to work on the cleanup and the fishing season was closed, so they had less activities to keep them occupied. People who worked long hours on the cleanup had little time to spend with their families. The position of an Indian Child Welfare (ICW) worker, who usually provided activities for children, was vacant during the summer of 1990, because the ICW worked on oil spill cleanup.

The disruption of gender roles was evident in the homes of families where the men were usually gone in the summer fishing, and women did not traditionally work outside the home. At least one woman who normally took care of the home full time took on a job with the city that no one else applied for. She and her husband did not work on the cleanup last summer but both have taken on more responsibility in the community, filling positions on boards and councils that others had vacated as a result of the oil spill.

Some parents expressed regret that they did not have the time to spend with their children because of the long hours working on the cleanup. There is no formal day care in the village and private babysitters are usually family members.

Mental Health

The community health representative position was vacated by an employee who left to work for VECO. Some service providers reported an increase in violence in the community during the active cleanup period. Increases in domestic violence were also noted, and older teenage boys and girls were involved in physical fights more than usual according to service providers.

Drug and alcohol use increased during the summer, and there was a reported increase in the amount of cocaine coming into the community according to service providers. Increases in marijuana and alcohol use were also noted. There were no active Alcoholics Anonymous (AA) meetings in the community at the time of the oil spill. There have been sporadic attempts to hold AA meetings and some service providers believed there was progress towards reinstating drug and alcohol programs that were interrupted by the oil spill.

Senior citizens receive meals and services through the Senior meal program. This program, operated by a senior cook who has run the program for several years, continued throughout the active cleanup phase. The community health representative is also active in the senior meal program and delivers meals to some elders at home. The senior cook reported that food costs and the number of seniors attending meals increased from the summer of 1988 to 1989. His estimates for average increases are 10 more servings per meal. One reason given for the increase in senior meal attendance is the lack of subsistence foods donated to seniors by family members. The senior cook also normally donates food from his garden to the senior meal program but was unable to do so since the oil spill.

Some canned and frozen food was donated by Kodiak Island Borough and Exxon for senior citizens, but a few seniors returned the cans that were given to them in fear that they were contaminated. Debates among seniors about whether or not the fish were safe to eat were sometimes a topic of conversation at senior meals visited during March of 1990.

A suicide prevention program was halted because of a lack of personnel to manage the program. The program was funded through the Tribal government. One letter threatening suicide was written to a parent by a teenager saying she was feeling ignored by her mother who was working long hours. The child was taken outside the village for counseling and has not shown any signs of suicide threats since.

Medical

The local clinic staffed by one health aide was also affected by the oil spill. This health aide remained on 24 hour call during the entire summer until an alternate was hired in the fall. The health aide had worked in the position for less than two years, and began to earn more trust in the community during the summer of 1989. She often found herself in the role of counselor as well as a medical provider. An increase in demand was noted for patients that fell within the age bracket between small children and elderly adults. This increase lasted until the fall of 1990 when patient visits slowed down at the clinic.

The types of problems that required medical care were different during the active cleanup phase. There were more personal injuries and more cases of pneumonia. Additional treatments were sometimes required for people who did not take the medication as prescribed, originally due to erratic work schedules. In general, the people receiving