

EVOSTC Project 15150122

Update on the Status of Subsistence Uses in Exxon Valdez Oil Spill Area Communities, 2014

This executive summary is excerpted from the project's final report which can be found under "Current Items of Interest" on our website (www.evostc.state.ak.us)

Executive Summary

The goal of this project was to collect, analyze, and report information about subsistence uses of fish and wildlife in the 3 Exxon Valdez oil spill area communities of Cordova, Tatitlek, and Chenega Bay in 2014 that is comparable with previous research results and that can be applied to evaluate the status of subsistence uses in light of the Exxon Valdez Oil Spill Trustee Council's (EVOSTC) recovery objective. The 2014 update of the Injured Resources and Services List, adopted by the EVOSTC as part of the 1994 Restoration Plan, lists subsistence as an injured natural resource service that is "recovering." The plan defines the following restoration objective for subsistence:

Subsistence will have recovered when injured resources used for subsistence are healthy and productive and exist at pre-spill levels. In addition, there is recognition that people must be confident that the resources are safe to eat and that the cultural values provided by gathering, preparing, and sharing food need to be reintegrated into community life.

Evaluating progress toward the EVOSTC's recovery objective for subsistence entails addressing 3 questions:

1. Are resources used for subsistence purposes healthy, and are their populations at pre-spill levels?
2. Are people confident that resources are safe to eat?
3. Have the cultural values associated with subsistence uses been reintegrated into community life?

Assessing the recovery of subsistence uses also includes the difficult task of separating the potential lingering effects of the oil spill from other concurrent environmental, economic, social, and cultural factors.

Study objectives included the following for a census survey of households in Chenega Bay and Tatitlek, and a random sample of households in Cordova, supplemented by key respondent interviews in each study community.

1. Provide estimates of harvests of fish and wildlife resources for home use and participation rates in 2014;
2. Provide supporting demographic and employment data;
3. Assess harvests and uses in comparison to other years;
4. Provide maps of harvest areas and evaluation of changes in these areas;
5. Evaluate food safety and resource availability (to address questions 1 and 2, above);
6. Provide information on qualitative aspects of subsistence uses (e.g., involvement of children, role of elders that assist in evaluating integration of subsistence back into community life [to address question 3, above]); and
7. Obtain a community review and discussion of study findings.

Review and approval of the research plan was obtained for each study community. Sample achievement was 71% of year-round households in Chenega Bay and 78% in Tatitlek, and a random sample of 19% of households in Cordova. Data review meetings took place in each community. Study findings for Nanwalek and Port Graham, 2 lower Cook Inlet communities in the spill area for which research was funded from another source, were included in the discussion to broaden comparisons across study years and subareas.

The report includes chapters with study findings for Chenega Bay, Tatitlek, and Cordova. The chapters include descriptions of harvests and uses in 2014 compared to other years, and discussions of factors shaping patterns of subsistence uses, including resource conditions, food safety, the role of elders, the teaching of youth, and the status of the traditional way of life. The final chapter summarizes study findings in light of the EVOSTC's recovery objective.

Based on the survey data, Cordova's population increased modestly by 9% from 2003 to 2014, while the populations of Port Graham and Tatitlek were relatively unchanged. Chenega Bay's population was down 37%. Since 1980, Nanwalek has shown steady population growth according to U.S. Census Bureau data. These demographic trends need to be factored in to any assessment of subsistence uses and community well-being.

Based on the findings from the 2014 research, evidence that subsistence uses are recovering based on the status of natural resources and subsistence uses includes the following:

- Relatively high levels of harvests of a variety of resources: 116 lb per capita in Cordova, 218 lb in Port Graham, 253 lb in Nanwalek, 255 lb in Chenega Bay, and 294 lb in Tatitlek;
- Widespread participation in harvest activities;
- Frequent sharing of fish and wildlife harvests; and
- An increase in the number of resources classified as recovered or likely recovered by the EVOSTC; only 4 still classified as not recovering.

Potential evidence that subsistence uses are not fully recovered based on this criterion includes the following:

- Harvests in 2014 as estimated in pounds per capita were down substantially from 2003 (ranging from 34% in Cordova to 53% in Port Graham; Tatitlek's harvest rose 1%), down from post-spill averages since 1991 (from 11% in Tatitlek to 39% in Chenega Bay), and down from pre-spill estimates (from 4% in Port Graham to 42% in Cordova);
- A much lower diversity of resource uses was documented in all study communities compared to the pre-spill averages and annual post-spill averages from 1991 through 2003;
- In 2 communities (Nanwalek and Tatitlek), a notable drop occurred in the percentage of households receiving wild resources in 2014 compared to 2003; in all 5 communities, a lower percentage of households gave away wild resources; and the average number of resources received and given away per household dropped in all 5 communities as well;
- Many households reported their uses of wild resources were down in 2014 compared to other recent years;
- Respondents overall said some natural resources have not recovered from continuing EVOS effects; and
- According to respondents, availability to harvest is also low for some resources.

This potential evidence of a lack of a full recovery from EVOS effects is likely not solely related to the EVOS and some changes might not be connected to EVOS conditions at all. As explanations for lower harvests and uses, respondents cited personal reasons, work commitments, and general lower levels of effort as often, or more often, than natural resource conditions, and few directly cited spill effects as a single or primary cause of changing subsistence patterns. For example, respondents in Chenega Bay, Cordova, and Tatitlek linked heavy snowfalls that reduced deer populations to lower deer harvests. Respondents in Nanwalek and Port Graham attributed lower subsistence Pacific halibut harvests to increased pressure from sport fishing charter operations; and in Chenega Bay and Nanwalek, respondents discussed competition between subsistence salmon fisheries and commercial fisheries. Nanwalek residents are concerned about the effects of erosion on the sockeye salmon stocks of the English Bay River, which they attribute to both climate change and road and trail development. Rising costs of equipment and fuel inhibit or limit harvest effort in all the study communities. A drop in involvement in commercial fisheries in several communities has also affected access to harvest areas and equipment as well as a source of cash income linked to local resources. Respondents in Nanwalek and Port Graham discussed an overall decline in populations of marine invertebrates that they attributed to a variety of factors, including commercial overharvests, sea otter predation, local overharvests, water pollution, and warming water temperatures.

In several communities, respondents linked lower and less diverse subsistence harvests and uses to a lack of interest and effort on the part of younger generations. These observations illustrate how changes initiated or exacerbated by the EVOS have in subsequent decades intertwined with other causes of change.

Based on the findings from the 2014 survey, evidence that subsistence uses are recovering based on food safety issues includes the following:

- Most respondents expressed confidence in the safety of using subsistence foods, and this level of confidence has increased; and
- Few respondents pointed to EVOS contamination as a source of concern about food safety.

Potential evidence that subsistence uses are not fully recovered based on this criterion includes the following:

- Small but notable portions of respondents expressed concerns about food safety, especially related to Pacific herring and clams;
- Some key respondents wondered if lingering EVOS-contamination concerns were not voiced due to a strong preference for eating traditional foods (such as clams); and
- EVOS contamination was commonly cited as a cause of food safety issues among those who did express a concern.

Also, community residents are aware of pockets of residual oil within their traditional use areas. Respondents also expressed broader concerns about potential food safety issues, such as radiation contamination on fish from the Fukushima Daiichi nuclear accident in Japan and the effects of warming ocean temperatures on bivalves.

Based on the findings from 2014, evidence that subsistence uses are recovering based upon reintegration of cultural values connected to subsistence uses into community life includes the following:

- Majorities of respondents in some communities reporting youth are learning subsistence skills; and
- Most households received and gave away wild resources.

Potential evidence that subsistence uses are not fully recovered based on this criterion includes the following:

- Many survey respondents stated that youth are not learning subsistence skills;
- Many respondents said elders' influence continues to decline; and
- Few respondents said the traditional way of life has recovered.

In summary, the study results point to the same conclusion as in 2003, in supporting the EVOSTC's assessment that subsistence uses are "recovering" but not fully recovered. While most injured natural resources have recovered or are recovering from the conditions created by the EVOS, cultural recovery in the communities of the spill area is ongoing, and takes place within a broad array of other sociocultural and environmental factors.

The last overview of subsistence uses in EVOS area communities, pertaining to the 2003 study year, concluded that

Conditions in the natural, economic, and social environments have changed significantly for the residents of the area affected by the spill since 1989. Some of these changes are direct consequences of the oil spill, while the link for others is less certain. This study has shown that despite these changes, subsistence uses of natural resources remain key to the health and well-being of these communities.

The same conclusion applies to the finding for 2014. Subsistence harvests remain an important source of food in the study communities, include a wide range of species, are frequently shared, and provide a context for expressing and sharing the skills and values intimately linked to centuries-old traditions and future cultural survival.

However, the study also documented relatively low harvests compared to other post-spill years. Subsistence uses were also less diverse in 2014 than in any study year except for the first 2 years after the spill. Many respondents stated that youth are not learning subsistence skills, elders are not engaged in transmitting essential knowledge and values, many natural resource populations have declined or are difficult to access, and the traditional way of life has not recovered from the effects of the EVOS.

Subsistence harvests vary from year to year for a variety of reasons. However, lower and less diverse harvests occurred in all 5 study communities in 2014 and were generally consistent with respondents' evaluations. Respondents cited a range of explanations for changing subsistence uses. The oil spill initiated or contributed to a set of environmental, economic, and sociocultural conditions to which each study community must adapt. It is not possible nor necessary to completely factor out EVOS effects from this broader set of conditions. As the study for 2003 concluded, a return to pre-spill conditions is impossible for spill-area communities and is not the appropriate measure of recovery. A viable future for these communities will be based on meaningful involvement in natural resource management, opportunities in the cash and subsistence sectors of the local economies, and the transmission of skills and knowledge across generations.

The report ends with suggestions for potential actions to include local communities in post-EVOS restoration efforts as well as strengthen communities for their future. These recommendations include support for cultural camps and other ways to engage elders with youth, programs to assist community residents to participate in fishing, hunting, and gathering activities, and long-term monitoring of natural resource populations as well as the effected human populations.