

ANNOTATED BIBLIOGRAPHY OF SELECTED REPORTS RELATED TO THE COMMUNITY DEVELOPMENT QUOTA PROGRAM OF WESTERN ALASKA

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Abbreviations

ACE	Alaska Cooperative Extension
ADCED	Alaska Department of Commerce and Economic Development
ADF&G	Alaska Department of Fish and Game
ADOL	Alaska Department of Labor
AFA	American Fisheries Act
APICDA	Aleutian Pribilof Islands Community Development Association
BBEDC	Bristol Bay Economic Development Corporation
BEA	U.S. Bureau of Economic Analysis
BLS	U.S. Bureau of Labor Statistics
BSAI	Bering Sea and Aleutian Islands
BSFA	Bering Sea Fishermen's Association
BTS	Bureau of Transportation Statistics
CBSFA	Central Bering Sea Fishermen's Association
CDQ	Community Development Quota
CDQ-SED	Community Development Quota Social and Economic Database
CFEC	Commercial Fisheries Entry Commission
CFMD	Commercial Fisheries Management Division
COE	Army Corps of Engineers
COPS	Community Oriented Policy Services
CPDB	Community Profile Database
CRIMS	Community and Regional Impact Models
CVFC	Coastal Villages Fishing Cooperative
DPA	Division of Public Assistance
DMV	Division of Motor Vehicles
EDM	Economic and Demographic Models
FEAMS	Fishery Economic Assessment Model
FIMS	Fishery Impact Models
GOA	Gulf of Alaska
IFQ	Individual Fishing Quota
I-O	Input-output
IPHC	International Pacific Halibut Commission
IRS	U.S. Internal Revenue Service

MIG	Minnesota IMPLAN Group
MMS	Minerals Management Service
NAS	National Academy of Sciences
NEI	Northern Economics, Inc.
NEPA	National Environmental Protection Act
NMFS	National Marine Fishery Service
NPFMC	North Pacific Fishery Management Council
NRC	National Research Council
NSEDC	Norton Sound Economic Development Corporation
RAM	Restricted Access Management Division
REIS	Regional Economic Information System
RIMS	Regional Industrial Multiplier System
SFD	Sustainable Fisheries Division
TAC	Total Allowable Catch
TR	Technical Report
UAF	University of Alaska Fairbanks
USCB	U.S. Census Bureau
YDFDA	Yukon Delta Fisherman's Development Association
WAFDA	Western Alaska Fisheries Development Association

1 Introduction

The Western Alaska Community Development Quota Program (CDQ) is one of the most significant and effective economic development programs in the State of Alaska. Through the CDQ program, residents of western Alaska coastal communities have become powerful players in one of the world's largest fisheries. The CDQ program was developed in 1992 as a means of extending the economic opportunities of the productive fisheries in the Bering Sea and Aleutian Islands (BSAI) area to rural communities located near these resources.

Despite the apparent success of the CDQ program and numerous studies of the program, a definitive assessment of the socioeconomic impacts of the CDQ program does not exist. Prior studies of the program have examined some of its impacts on western Alaska communities, but most of these acknowledge that they were conducted too early in the life of the program to evaluate long-term trends. Other studies have sought to identify potential source data that could be useful to analysts and researchers interested in tracking social and economic progress.

A preliminary data assessment of the information available to evaluate the socioeconomic impacts of the CDQ program on western Alaska is underway. The data assessment is composed of two steps:

- Building a preliminary information resource
- Using the preliminary information resource in a gap analysis to identify additional data needed to carry out a socioeconomic analysis of the CDQ program

The preliminary information resource for this study has four components.

- Review of the previous literature on the CDQ program. The product is the following detailed annotated bibliography.
- Compile available demographic information about the CDQ communities from the 2000 U.S. Census and the Alaska Department of Community and Economic Development community profiles.¹
- Review and summarize official reports of the CDQ groups including their Community Development Plans and their annual and quarterly reports.
- Summarizing official fishing and processing data from AKFIN.

For this first step, the review of previous literature related to the CDQ program is set up like an annotated bibliography. The bibliography will serve as a resource document for the data assessment process and for the socioeconomic analysis. A brief overview of the CDQ program provides context to the literature review. A list of the reviewed studies is presented in Table 1.

After completion of the data assessment and gap analysis, new information will be collected, followed by a socioeconomic analysis of all the data and compilation into a well-organized report of the socioeconomic impacts of the CDQ program. This current study has the advantage over previous studies of access to nearly nine years of data and the extensive reviews of the economic impact of the CDQ program undertaken by the State of Alaska and the other previous research.

¹ Summary demographic profiles of sample data, showing the social and economic characteristics of communities (i.e. labor force, household and family characteristics, educational attainment, poverty status, and income characteristics) are scheduled to be released between June and September 2002.

Table 1. List of Reviewed CDQ Studies

Author	Title	Date
E3 Consulting	Economic Impacts of the 1992/93 Pollock Community Development Quotas	June 1994
Edgar Blatchford	Working Together for Community Economic Development in Rural Alaska	Winter 1994
Jay C. Ginter	The Alaska Community Development Quota Fisheries Management Program	1995
Alaska Department of Community & Regional Affairs ¹	Economic Impacts of the Pollock Community Development Quota Program	April 1995
Jim Richardson, ResourceEcon, Northern Economics, Inc., and Stephen R. Braund & Associates	Potential Impacts of CDQ Options for Western Alaska Communities	June 1995
Mary C. Pete	Alaska's Community Development Quota Program: Community Awareness Response. A Report of Research Findings	December 1995
Robert Townsend	An Economic Assessment of Alaskan Community Development Quotas	1996
Kacy Collons Keys	The Community Development Quota Program: Inequity and Failure in Privatization Policy	1997
Northern Economics, Inc. ²	Task 1 Report: Summary of Currently Available Information Relevant to the Social and Economic Database for the Western Alaska Community Development Quota Program	March 9, 1998
Northern Economics, Inc. ²	Task 2: Social and Economic Database for the Western Alaska Community Development Quota Program: Discussion Worksheet and User Survey	March 19, 1998
Alaska Department of Community & Regional Affairs ¹	Economic Impacts of the Pollock Community Development Quota Program	May 1998
Northern Economics, Inc. ²	Task 3: Summary of CDQ-SED User-Survey Responses	August 8, 1998
Northern Economics, Inc. ²	Task 4: Final Report. Contents and Implementation of a Social and Economic Database for the Western Alaska Community Development Quota Program	September 10, 1998
North Pacific Fisheries Management Council	Environmental Assessment/ Regulatory Impact Review/Final Regulatory Flexibility Analysis for Amendment 45 to the Fishery Management Plan for Groundfish in the Bering Sea and Aleutian Islands Area-Permanent Extension of the Allocation of Pollock to the Western Alaska Community Development Quota Program	December 1, 1998
National Research Council	The Community Development Quota Program in Alaska	1999

Author	Title	Date
AdTech Consulting Group, Inc.	Implementation of a Social and Economic Database for the Western Alaska Community Development Quota Program	June 1999
Northern Economics, Inc. and North Pacific Fisheries Management Council	Analysis of AFA Processor Sideboard Limits for Groundfish and Excessive Share Caps for BSAI Pollock Processing	January 2000
National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Alaska Region	Alaska Groundfish Fisheries Draft Programmatic Supplemental Environmental Impact Statement	January 2001
Alaska Department of Community and Economic Development ¹	Economic Impacts of the Multi-Species Community Development Quota Program	June 2001
North Pacific Fishery Management Council and National Marine Fisheries Service, Alaska Region	Regulatory Impact Review/Initial Regulatory Flexibility Analysis for Proposed Amendment 71 to the Fishery Management Plan for Bering Sea/Aleutian Islands Groundfish	November 15, 2001

¹ These State of Alaska reports are discussed under the 1995 report.

² These NEI reports are discussed under the March 9, 1998 NEI document.

The annotated bibliography begins with the 1994, E3 Consulting study, which reported on the economic impacts of the first full year of operation of the CDQ program. The report has been the basis of a good deal of geographical and historical information used in the 1995, 1998, and 2001 reports on economic impacts of the CDQ program by the State of Alaska.

The 1994 Edgar Blatchford study points out the unique collaborative aspects of the CDQ program and provides a context for the CDQ program in terms of other state community development programs.

In 1995, Jay Ginter described the CDQ program as a system of limited access management—a form of “individual transfer quota” (ITQ). Firms harvesting a CDQ allocation may be expected to function as if operating under an ITQ where the incentive is to under-report the catch. The CDQ program is acknowledged as explicitly recognizing the special needs of communities as distinct from business firms or individuals. Ginter argues that:

Using a public fishery as a source of capital to enable investments in regional development is a public policy that is as legitimate as using that fishery to produce capital for a fully developed industry.

The State of Alaska has conducted three extensive reviews of the economic impacts of the CDQ program (1995, 1998, and 2001) describing the development strategies of the CDQ groups including revenue generation, asset accumulation, vessel acquisitions, and community-based fisheries development projects. Profiles are also presented for each of the CDQ groups.

The ResourceEcon, Northern Economics, Inc. (NEI), and Stephen R. Braund & Associates report in 1995 addresses the potential impacts of the expansion of the CDQ program to Bering Sea crab and to additional groundfish species. An economic/demographic model originally developed by NEI for the Bureau of Indian Affairs was used to estimate population, employment, and per capita income for six selected CDQ communities for both the existing CDQ program and the alternatives proposed by the North Pacific Fisheries Management Council.

Mary C. Pete's 1995 study reviews the first year and half of operation of the CDQ program. Her study is the only one where primary data was collected in a systematic way from communities in western Alaska. Over the course of her study, 128 surveys of community officials and representatives were completed in 49 of the 50 CDQ communities that were represented by the Western Alaska Fisheries Development Association. Another 219 surveys of randomly selected households were completed in seven case-study communities. Forty-one participants of the CDQ program were interviewed along with 21 federal and state officials and regional agents working with the CDQ program. It would be useful to recreate portions of her study to see how perceptions of the CDQ program and its impacts on local communities have changed now that the program has been in operation for almost 9 years. Her study also details some of the problems encountered when conducting survey research in western Alaska communities.

Robert Townsend (1996) assesses the performance of the CDQ program during its first three years of operation. It is interesting to note that he examines the CDQ program in the context of community-based management of fisheries, which he views as an important alternative to government-centered, command and control regulation of fisheries. However, definitions of community management of fisheries usually include participation on the part of the community in setting the allocation, which does happen in the CDQ program. Townsend discusses the workings of the each of the CDQ groups in their early years, and gives examples of the administrative structure created by the state of Alaska and the implications of that structure for the CDQ program.

Kacy Collons Keys (1997) examines the CDQ program through a case study approach to test her hypothesis that market-based solutions are inadequate to address either conservation or economic development concerns.

NEI produced four documents that complement one another regarding the Community Development Quota Social and economic Database (CDQ-SED) proposed for the CDQ program. The March 9, 1998 NEI document provides an extensive, detailed reference of the social and economic data available relevant for CDQ groups, oversight agencies, and other interested observers. The disconnect between essentially six new geopolitical units and the corresponding boroughs and census areas is noted along with the difficulties this disconnect causes for collecting information about CDQ communities and groups. A survey (March 19, 1998) was designed to identify the type and sources of the data needed for evaluation of the CDQ program.

The August 8, 1998 report by NEI presents the findings of a survey of CDQ groups and agencies dealing with the CDQ program. All of the respondents (seven) felt the CDQ-SED should be developed. However, most respondents felt that the CDQ-SED should function only as a distributor of information with an Internet database containing a library of studies and reports about western Alaska communities, the CDQ program, and relevant research, as well as links to other pertinent data sources.

NEI's (September 10, 1998) final report of Phase I of the Bering Sea Fishermen's Association (BSFA) efforts to develop a CDQ-SED identifies the information that should be included in the database and develops an implementation plan for the database. These documents led to the 1999 AdTech Consulting Group report developing business objectives and an implementation schedule for the CDQ-SED.

The North Pacific Fisheries Management Council (1998) environmental assessment for groundfish in the BSAI area takes note of the differentially higher economic impact of the CDQ program when compared to other regions of the State of Alaska and the United States in general.

The National Research Council's 1999 study provides a broad review of the biological, social, and economic conditions of the western Alaska region. The history and structure of the commercial fishing

industry in the BSAI, development and current issues in the region, an overview of the CDQ program, the evaluation process used by the committee as contrasted to the processes used by state and federal overseers, and recommendations of the committee are included.

The 1999 AdTech Consulting Group report used an extensive interview process to try to create and define a shared understanding of the functions and uses of the potential CDQ-SED database on the behalf of potential users. Six potential business objectives are identified and developed. One is recommended for implementation.

A January 2000 report by NEI and the North Pacific Fisheries Management Council examines the effects of imposing limits on the amount of all groundfish in the Gulf of Alaska (GOA) and non-pollock groundfish in the BSAI that can be processed.

The National Marines Fisheries Service's 2001 Alaska Groundfish Fisheries Draft Programmatic Supplemental Environmental Impact Statement (draft SEIS) provides a large-scale analysis of the BSAI and GOA groundfish fisheries management plans. The draft SEIS includes an assessment of the effects of six alternative frameworks on the CDQ program.

2 Brief Overview of CDQ Program

In 1991, the North Pacific Fisheries Management Commission (NPFMC) recommended to the Secretary of Commerce that a fishery Community Development Quota (CDQ) program be created. The purpose of the CDQ program was to extend economic opportunities of the productive fisheries in the BSAI (especially pollock) to western Alaska communities in proximity to these valuable living marine resources. As initially envisioned, the proposed program set aside 7.5 percent of the BSAI's annual total allowable catch (TAC) for Alaska pollock for allocation to qualifying western Alaskan communities.

CDQ communities are predominantly Alaska Native villages. They are remote, isolated settlements with few natural assets with which to develop and sustain a viable diversified economic base. As a result, economic opportunities have been few, unemployment rates have been chronically high, and communities (and the region) have been economically depressed. While these communities border some of the richest fishing grounds in the world, they have largely been unable to exploit this proximity. The full Americanization of the BSAI fisheries occurred relatively quickly. However, the very high capital investment required to compete in these fisheries precluded most communities from participating in their development. The CDQ program serves to ameliorate some of these circumstances by extending an opportunity to qualifying communities to directly benefit from the productive harvest and use of these publicly owned resources.

Program regulations went into effect on November 18, 1992, and CDQ fishing began on December 5, 1992. At its inception in 1992, 55 communities received a temporary harvest allocation of 7.5 percent of the Bering Sea pollock quota. Originally involving only the pollock fishery, the program has in recent years expanded to become multi-species in nature, encompassing groundfish and non-groundfish fisheries. Today, the CDQ program also includes such species as Pacific cod, Atka mackerel, flatfish, sablefish, and other groundfish, along with halibut and crab. The CDQ program for BSAI halibut and sablefish was implemented in 1995. A CDQ program for BSAI crab was implemented in 1998, and the multi-species groundfish CDQ program was implemented in late 1998. The NPFMC also extended the pollock CDQ allocations permanently by including pollock in the multi-species groundfish CDQ program. The American Fisheries Act (AFA) of 1998 increased the pollock allocation for the CDQ program to 10 percent of the annual TAC. Current CDQ allocations range between 10 percent for pollock and 7.5 percent for most other species.

CDQ groups can harvest their own allocations or contract with non-CDQ firms for harvest of the resource. The value of the CDQ program's allocation is based in part on the ability to fish CDQ allocations year round even when open access fisheries are closed. The State of Alaska is responsible for administration and monitoring of the program through the Alaska Department of Community and Economic Development (the lead agency) and the Alaska Department of Fish and Game. The state can adjust the percentages awarded to each group from one allocation period to the next, based on the state's evaluation of various factors—documented need, adequacy of the proposed plans to use the requested allocation to meet those needs, past performance, past compliance, and the merit of the proposal in terms of future development activities.

Currently, sixty-five ANCSA villages near the Bering Sea have established eligibility under federal and state regulations. These villages have formed six self-determined non-profit CDQ groups based in part on geographic and cultural boundaries. The groups include the Aleutian Pribilof Island Community Development Association (APICDA); Bristol Bay Economic Development Corporation (BBEDC); Central Bering Sea Fishermen's Association (CBSFA); Coastal Villages Region Fund (CVRF); Norton Sound Economic Development Corporation (NSEDCC); and Yukon Delta Fisheries Development Association (YDFDA). The CDQ groups are composed of from 1 to 21 communities. These CDQ

groups have established innovative partnerships with major North Pacific fishing and seafood corporations. Local hire and reinvestment of proceeds in fishery development projects are a required part of the program.

In recent years, the program has provided more than 1,000 jobs annually for residents of western Alaska CDQ villages. Yearly wages have exceeded \$8 million. This program has also contributed to infrastructure development projects within the region as well as loan programs and investment opportunities for local fishers.

3 Annotated Bibliography

**E3 Consulting. June 1994. *Economic Impacts of the 1992/93 Pollock Community Development Quotas.*
Prepared for Alaska Department of Fish and Game.**

E3 Consulting of Anchorage reported on the social and economic impacts of the CDQ program on the 55 CDQ communities after the first full year of operation of the program. The report was based on quarterly and annual reports, independent auditor's reports, management audits, CDQ applications, and confidential financial information. The report includes brief descriptions of the purpose of the CDQ program, its background, the physical setting of the 55 communities, available natural resources, demographics of the CDQ communities based on 1990 census data, and the regional economy. The geographical and historical information from this report has been used in several State of Alaska reports on economic impacts of the CDQ program.

In 1990, the population of the 55 CDQ communities was 21,429, with over 25 percent of the population living below the poverty level. Approximately 78 per cent of the population was Alaska Natives living in communities ranging in size from 3 to 3,500. Access between villages is limited to boats in the summer, snow machines in the winter, and airplanes all year. None of the villages are connected by road to the rest of Alaska.

Subsistence harvests of approximately 437 pounds per person per year (based on a subsample from CDQ communities) provide a significant portion of the nutritional needs of area residents particularly in the smaller communities. Subsistence activities also provide emotional and cultural benefits for residents of western Alaska and these benefits are more difficult to understand and quantify. Western Alaska CDQ communities have historically depended on subsistence harvests. E3 points out that separating the collection of food from the context of nature is not possible to do in this region. Many residents of western Alaskan place a higher value on participation in subsistence harvest activities over participation in wage labor.

Employment opportunities are limited. Examples of typical employment opportunities include employment in a school, post office, local utilities, retail store(s) local government, local road and airport maintenance, or employment as a health aide, public safety officer, airport agent, or member of the National Guard. Some local jobs such as teaching school are filled by individuals from outside the community.

According to E3, the CDQ program transfers the privilege of harvesting a small percentage of a natural resource to groups of disadvantaged communities and mandates local responsibility. The purpose of the program is to spur self-sustainable economic development by accumulating enough capital to invest in the fishery. The report acknowledges that it is too early to determine whether the program will be successful in terms of the social goals underlying the development of the program. In addition, it is difficult to measure the indirect, individual level, spin-off benefits that are expected to contribute significantly to the impact of the program on communities in western Alaska.

However, the report does describe the significant gains made during the first 13 months of operation, December 1992 to December 1993, including:

- Harvest of 196,811 metric tons of pollock with \$39 million in royalty income.
- 556 western Alaskans earned approximately \$3.6 million in wages.
- CDQ wages provided 8 percent of regional employment and 2 percent of regional household income.

- Training for 375 western Alaskans for 864 weeks.
- Major infrastructure projects including leveraging of funds for harbor dredging, building a warehouse, docks, water systems, and increased ice, cold storage, and seafood processing capacity.
- One CDQ group purchased a half interest in a factory/trawler and another group purchased eight small fishing boats.
- Two joint venture processing operations were initiated to allow local fishermen to receive higher prices for herring and salmon fisheries.
- \$23.8 million in total assets and \$1.7 million in liabilities were held by the CDQ groups at the end of 1993.

Blatchford, Edgar. Winter 1994. "Working Together for Community Economic Development in Rural Alaska." *Economic Development Review*. Vol. 12.

The article provides a brief overview of four rural community economic development initiative efforts by the State of Alaska: a state job training and employment program, business loan program, rural economic development assistance collaboration, and a major resource reallocation initiative (the CDQ program). This article provides a context for the CDQ program in terms of other state community development programs. The programs all exemplify the increasing emphasis in the community economic development arena on the importance of collaborative approaches between federal, state, and local governments with the private sector to maximize limited available resources. The private sector must be involved in finding opportunities to create workable, public/private partnerships.

The Alaska Department of Community & Regional Affairs is charged with coordinating community and rural affairs, and developing and sustaining economies across a state with a landmass one-fifth the size of the continental United States. Much of rural Alaska faces challenging barriers from dispersed population, limited infrastructure, prohibitive construction costs, and transportation limitations.

The State Training and Employment Program (STEP) was a pilot project created to fill service gaps in the federal job training programs. Funding for the program comes from employee contributions to the Unemployment Insurance Trust Fund administered by the Alaska Department of Labor. Grants are awarded to various training projects to prevent future claims against unemployment benefits, attract new businesses to Alaska, foster growth of existing businesses, promote local hire, and ease the impact of Alaska's chronic economic fluctuations by training and retraining of workers.

The Rural Development Initiative Fund provides access to capital for entrepreneurial activities in rural Alaska through innovative strategies in partnership with private lenders and the Alaska Industrial Development and Export Authority. Loans are provided for working capital, equipment, renovation, and/or construction for businesses located in rural Alaska.

The Rural Economic Development Initiative is an umbrella program that works to create private sector jobs in rural Alaska through cooperative efforts on the part of several programs including Community Development Block Grants, federal and state funded competitive grants, mini-grants, and small state-funded innovative competitive grants. Jobs are created by making use of, and adding value to, locally available resources, producing goods previously shipped in from outside, and tapping local creativity and know-how. Projects include tourism development, commercial greenhouses, promotion of cottage industries, fur and meat industries, fisheries development and value-added fish processing, aquaculture, and the provision of local infrastructure to support health and safety of the community.

Community economic development is difficult without a basic infrastructure of health clinics, docks, roads, water and sewer, airport improvements, childcare and head start centers, and tank farms.

The CDQ program is a unique collaborative effort involving federal, state, and local levels of government. Included are the Alaska Department of Community and Regional Affairs, the Department of Community and Economic Development, the Alaska Department of Fish and Game, the Office of the Governor, the U.S. Department of Commerce, National Marine Fisheries Service (NMFS), and the North Pacific Fishery Management Council (NPFMC).

In the CDQ program, benefits accrue to communities along the Bering Sea from an allocation of the pollock fishery. Eligible communities partner with experienced companies from the private sector to harvest, process, and market pollock. Monies earned are used to provide immediate and long-term employment opportunities, capital to pursue near-shore fisheries development activities, fishery infrastructure development, scholarship endowments, and quality employment training programs.

Ginter, Jay C. C. 1995. "The Alaska Community Development Quota Fisheries Management Program." *Ocean & Coastal Management*. Vol. 28, No. 1-3.

At the time this journal article was written, Ginter was the Chief of the Limited Access Planning Branch of the NMFS for the Alaska Region. According to Ginter, the western Alaska CDQ is a system of limited access management—a form of "individual transferable quota"—that explicitly recognizes the special needs of communities as distinct from business firms or individuals. Each CDQ group can harvest its own allocation or contract with a non-CDQ firm for harvesting services. The first pollock allocation from the CDQ reserve was made on December 9, 1992, and approximately 20 fishing vessels harvested almost 98,000 metric tons of walleye pollock in December 1992.

In his article, Ginter briefly reviews the history of the pollock fisheries in the eastern Bering Sea, the CDQ communities, development and operation of the CDQ program including community eligibility, the required biennial CDQ community development plans, along with a discussion on monitoring of performance in terms of the community development plan and the harvest of the CDQ pollock allocations. According to Ginter, managing a CDQ fishery requires more intensive monitoring than an open access fishery where the entire fleet harvests from a common pool until the prescribed catch limit is reached. Firms harvesting a CDQ allocation may be expected to function as if operating under an individual transferable quota where the incentive is to under-report the catch. To minimize under reporting, vessels harvesting CDQ allocations must have two observers on board.

The State of Alaska's experience with administration of the program through 1994, some key events of 1995, an appraisal of benefits and costs of the program, and potential for future expansion of CDQ allocations are also discussed.

As with the previous studies by E3 and Pete, Ginter acknowledges that the CDQ program has not been in operation long enough:

...to draw firm conclusions about whether the economic development that appears to be fostered by the CDQ program is durable, although it would appear that benefits from the Bering Sea pollock fishery clearly have been directed to the western Alaska region.

In his conclusions, Ginter states that the major goal of federal fisheries management is "to derive the greatest sustainable benefits from the fishery resources of the U.S. for the people of the U.S." Ginter acknowledges the cost of the CDQ program in terms of the benefits lost to those persons who would have harvested the resource if it were not allocated to the CDQ program. However, while the CDQ program is a transfer of wealth or tax from one group to another, the program is no different from

other forms of government subsidy of commercial fisheries that are justified because they meet specific social and economic objectives. As Ginter argues:

Using a public fishery as a source of capital to enable investments in regional development is a public policy that is as legitimate as using that fishery to produce capital for a fully developed industry.

If the CDQ program results in the more efficient use of a natural resource at the same time reducing the dependence of western Alaska communities on other forms of welfare, long-term positive benefits may accrue not only to the communities but also to the U.S. The CDQ program offers official recognition of the special interests of coastal communities in the resources located adjacent to their coastlines.

Alaska Department of Community & Regional Affairs. April 1995. *Economic Impacts of the Pollock Community Development Quota Program.*

Alaska Department of Community & Regional Affairs. May 1998. *Economic Impacts of the Pollock Community Development Quota Program.*

Alaska Department of Community and Economic Development. June 2001. *Economic Impacts of the Multi-Species Community Development Quota Program – Revised Draft Report.*

These three reports review the economic development impacts of the CDQ program on the western Alaska region at various points in time. The first report (1995) reviews the economic development impacts of the first 25 months, November 18, 1992 through December 31, 1994. The second report (1998) reviews impacts through 1997, while the third report (2001) addresses impacts through 2000. Before implementation of the CDQ program in 1992, approximately 94 percent of the value of this fishery with an annual harvest of approximately 2.9 billion pounds and an annual ex-vessel value in excess of \$200 million went to non-Alaskans. Almost none of the value of this fishery was captured by residents along the several thousands of miles of coastline along the Bering Sea.

Chapter 1 introduces the reports. Information for the reports was provided by the CDQ groups from CDQ applications, quarterly reports, and audited annual reports. The format for all three reports is similar.

Chapter 2 provides a discussion of the western Alaska region including physical setting, natural resources, economy, and 1990 U.S. Census data. The Bering Sea is known for both its productive fisheries and its fierce weather. Several thousands of miles of coastline along the Bering Sea are treeless—barren in the winter but lush in the summer. In addition to the pollock, herring, and crab in the Bering Sea, rivers emptying into the Bering Sea spawn millions of salmon. While there are limited deposits of gold, platinum, and tin in the region, very little mining takes place because of the expense. Some exploration petroleum wells have been drilled.

Employment opportunities are limited in part, because of the remoteness of the region. No road system connects any of the communities to a continuous road system. Access is also limited between villages. The western Alaska region contains four main commercial and transportation centers: Dutch Harbor, King Salmon, Dillingham, and Nome. Dutch Harbor is not a CDQ community because of its preexisting involvement with the Bering Sea fisheries. Federal, state, and local governments are the major employers in the region. Approximately 26 percent of the employment in the region is provided by local school districts. In many cases, one full time job is shared between several

households. Transfer income from the Alaska Permanent Fund Program, the Alaska Longevity Bonus Program, and Aid for Families with Dependent Children provide a significant source of income to residents in the region.

In the 1990 census, the 56 CDQ communities had a combined population of 21,037 with an Alaska Native Population of 77 percent. The relatively large share of the population under 16 in the CDQ communities indicates the serious need for jobs for a growing labor force. Civilian labor force participation is limited by membership in the military or by an individual's choice not to participate in the labor force. When people know there are no jobs available, they stop looking for work and, therefore, are not counted as unemployed. In addition, many western Alaskan residents value subsistence harvest participation over participation as a wage laborer. Local residents often must choose between a short, intense, relatively low-paid working season or harvesting salmon as a winter food source.

The civilian labor force in the CDQ group villages' accounts for only 59 percent of the population aged 16 to 65. Unemployment rates at the time of the 1990 census ranged from 9 percent in the BBEDC to 31 percent in YDFDA. Since the collection of data for the Census takes place in April, unemployment numbers may also have been affected by the seasonality of the employment opportunities in the region.

One of the findings of the first study is the relatively low share of the number of residents working in industries associated with fishing. The APICDA and CBSFA areas had approximately 15 percent of its employment in the fisheries industry, but no other CDQ group had more than 5 percent of its residents working in the fishing industry. Educational and public industries were the major industries in five of the six groups.

In 1989, the median income for the state was \$41,408. However, the median income in the Central Bering Sea and Bristol Bay areas was almost 10 percent below the state level while in the Yukon Delta and Aleutian Pribilof areas, the median was just over one half of the state median level. Comparisons of median income levels become more meaningful when one takes into account the high cost of living in these isolated areas of the state. The poverty rate in 1989 for all the CDQ areas except the Central Bering Sea area was approximately twice the 7 percent average rate for the state.

Salmon and herring fishing occur in many parts of western Alaska, but most local fisheries have very low average catch rates and provide little income to fishers except in the Bristol Bay salmon fishery. Around 20 percent of the regional population owned fishing permits or were licensed crewmembers in 1992. Another 2 percent were employed in fish processing. However, approximately 35 percent of the most valuable salmon fishing permits have migrated out of the region during the past two decades.

Chapter 3 in the 1995 and 1998 reports provide a discussion of the history, development strategies, and implementation of the CDQ program, industry partnerships, CDQ allocations, and the CDQ groups' goals and objectives. Also covered are the primary development philosophies of each group, program monitoring, and CDQ fisheries monitoring. However, in the 2001 report, these topics are divided into two chapters.

Discussions about the creation of CDQs for western Alaska communities began in the mid 1980s. The CDQ program became an integral component of the compromise management strategy that resulted from intense debates and decisions that occurred in reaching a viable pollock allocation. Most of the implementation of the CDQ program was delegated by the Secretary of Commerce to the State of Alaska through a framework application and review process. The CDQ program did not go into effect until late in the year in 1992, and the ability of the eligible villages to organize into CDQ groups and form industry partnerships in the short time frame allowed is testimony to the determination of the

residents of western Alaska to gain the greatest benefits possible from participation in the CDQ program.

Lists of CDQ activities are provided in Chapter 4 in the 1995 and 1998 reports, while they appear in Chapter 5 in the 2001 report. The economic impacts of the CDQ program are examined in Chapter 5, including direct and indirect employment and income impacts and effects in the 1995 and 1998 reports, while this discussion appears in Chapter 6 in the 2001 report.

Richardson, Jim, Resource Econ, Burden, Pat, Northern Economics, and Stephen R. Braund & Associates. June 1995. *Potential Impacts of CDQ Options for Western Alaska Communities.* Prepared for the Bering Sea Fishermen's Association to the North Pacific Fishery Management Council.

This document addresses the potential impacts of the expansion of the CDQ program to Bering Sea crab and to groundfish species other than pollock, sablefish, and halibut, which are already covered under existing programs. Socioeconomic conditions in the CDQ communities are described and some of the regional economic benefits of the proposed expansion of the CDQ program are outlined. The potential gains from an expanded program are compared with the achievements of the pollock CDQ for the years 1992 through 1995. Examples are given to demonstrate the impact of the CDQ program at the community level for 1994. The overall impact of various proposed allocation rates proposed by the North Pacific Fisheries Management Council for the CDQ program (3 to 15 percent) is described.

Community level analysis shows that the employment base was substantially increased under programs supported by the pollock CDQ quota during the 1994 base year. Community level economic impacts were estimated using an economic/demographic model originally developed by Northern Economics, Inc. for the Bureau of Indian Affairs. The model interconnects a cohort survival population module and an economic module to estimate population, employment, and income stimulated by economic development projects or activities.

The model employs different survival and fertility rates for Native and non-Native populations and different migration algorithms for each population. The economic model is based on population growth in the community, State of Alaska revenues, and basic industry sectors. The model reflects a basic economic pattern that exists in many rural Alaskan communities where transfer payments such as social security, unemployment compensation, food stamps, and other benefits are directly related to age, unemployment, and other relevant factors in the community. Since information is not available on the number of jobs and wages for each community, the total employment and wages are allocated to communities based on the community's proportion of total population in the communities included in the CDQ group. Employment and per capita income were compared for six selected communities under a baseline (without a CDQ program) scenario, an estimate of total employment per capita income for the existing CDQ program and similar estimates for a CDQ program that incorporates a 15 percent share of the Bering Sea and groundfish, plus the existing CDQ program. The six selected communities were Alakanuk (YDFDA), Atka (APICDA), St. Paul (CBSFA), Togiak (BBEDC), Toksook Bay (CVFC), and Unalakleet (NSED). This document concludes that in most communities, the increase in employment and per capita income generated by the existing CDQ pollock program is modest at best.

Pete, Mary C. *Alaska's Community Development Quota Program: Community Awareness and Response. A Report of Research Findings.* December 1995. Prepared for Western Alaska Fisheries Development Association and Bering Sea Fishermen's Association.

The purpose of the study was to provide a broad regional overview of the level of community awareness and understanding of the CDQ program after its first year and a half of operation. Pete also wanted to present a community context for program implementation and to identify community responses to the opportunities presented by the CDQ program. The project was funded by the Western Alaska Fisheries Development Association (WAFDA) and the BSFA to provide information for evaluation of the CDQ program in anticipation of a review by the NPFMC in December 1995 and the subsequent decision to extend the program past its sunset date.

At the time of Pete's study, 1994-1995, there were 56 CDQ communities organized into 6 CDQ groups. Her study focused on the 50 communities in the 4 CDQ groups represented by WAFDA: Bristol Bay Economic Development Corporation, Coastal Villages Fisheries Cooperative, Norton Sound Economic Development Corporation, and the Yukon Delta Fisheries Development Association.

Seven case-study communities, Chevak, Alakanuk, Dillingham, Teller, Eli, Egegik, and Chefornak, were selected for inclusion in the study by the faculty of the Department of Rural Development, University of Alaska Fairbanks from nominations by each of the four WAFDA-member CDQ groups. Selection was based on the number of communities in each CDQ group, population, agreement of the community to participate, and known research history in each nominated community.

The original focus of the study was to be on community residents identified by the four CDQ groups as participating or benefiting from CDQ initiatives. However, only 41 of a possible 136 identified participants in the 7 case study communities could be surveyed. Approximately 83 percent of these respondents stated that their economic outlook had improved since being involved in the CDQ program. Six percent said their outlook was worse and approximately 11 percent perceived their outlook as about the same. Two thirds of the respondents said they would work again on processing boats. Most of the respondents reported using money earned from CDQ employment to purchase large single items needed for subsistence activities such as snow machines and all-terrain vehicles. Pete reports that both trainees who were not hired and actual workers "expressed ambivalence about requirements for drug testing and the requirement to be clean and sober."

Over the course of the study, 128 surveys of community officials and representatives were completed in 49 of the 50 communities. Community leaders were asked questions about their "views of their community." The majority of community leaders ranked lack of jobs and training opportunities as the number one problem in their community. Most of the representatives ranked need for substance abuse intervention and prevention as a close second. Approximately 34 percent of the community representatives rated their community's economic situation for the past 2 years as "about the same," 32 percent as "better," 14 percent as "much better," another 14 percent as "worse," and 6 percent as "much worse." Economic improvement was attributed primarily to government grants for infrastructure development or upgrades.

One of the major findings of the study was that most household heads and community officials had vague ideas about the CDQ program unless they had a household or community member active in some way in the CDQ program. For example, approximately 82 percent of the community representatives surveyed knew "something about the program," 40 percent "knew a little," 25 percent were "somewhat familiar," and 17 percent were "very familiar" with the CDQ program. Because of their lack of familiarity with the CDQ program, many community officials were reluctant to offer interpretations or observations about the effects of the program on their community.

Another 219 surveys of randomly selected households were completed in the 7 case-study communities with a target of 30 percent of the households in the small communities and 15 percent of the households in Dillingham. Both the household and individual surveys included attitudinal questions about the respondent's community, socioeconomic situation and outlook, perceptions and knowledge about the future of CDQ programs in their community, along with questions about household and personal income, expenses, participation in wage employment, and several baseline questions about subsistence production and involvement. In terms of awareness and future expectations of the CDQ program, responses paralleled those of the community official respondents.

Only 10 of the 219 households surveyed reported receiving CDQ-generated income during 1993 amounting to between 15 to 89 percent (an average of 38 percent) of their total 1993 income. As many as 30 percent of those households surveyed chose not to reveal income estimates. Pete points out that previous experience with commercial fishermen, Alaska Natives in particular, indicates that many Alaska Natives consider it boastful and unlucky to admit to doing well while others do not want to admit to doing poorly. Where possible, Pete extrapolated income from the hours worked per week, estimated monthly transfer income, Permanent Fund Dividends, and estimated yearly incomes from commercial fishing. In the 7 case-study communities, average household income ranged from a low of \$21,200 in Elim to a high of \$37,912 in Dillingham.

In addition, 21 interviews were conducted with federal and state officials, and regional agents working in fisheries-related capacities. Most of these respondents expressed positive views of the CDQ program, although some believed that the program was temporary and that the impacts would be largely symbolic.

Pete recommends that Native cultural patterns of communication and interaction be taken into account when disseminating information about the CDQ program, because the lack of attention, in general, to written material hinders the use of print media to spread the word about the CDQ program.

In terms of indications for future research, Pete encountered several problems related to the survey that affected the surveying process. Trying to schedule interviews around the busy fishing and fish camp season, seasonal work opportunities, deaths, and funerals, and other village events was difficult. Telephone surveys were easy to administer in communities along the Bering Straits and Norton Sound, on St. Lawrence Island, and along Nushagak and Kvichak bays, because many community representatives had telephones and many of these communities kept official business hours. However, in the area between Unalakleet and Dillingham many homes lacked telephones, community offices did not have set business hours, and in smaller communities, officials often functioned in several capacities making them difficult to reach.

Townsend, R., 1996. *An Economic Assessment of Alaskan Community Development Quotas. Maine/New Hampshire Sea Grant Program Project R/FMD-237.*

Townsend assesses the performance of the CDQ program after its first three years of operation. He examines the CDQ program in the context of community-based management of fisheries, which he views as an important alternative to government-centered command and control regulation of fisheries. Although the primary thrust of the CDQ program is on economic development, the CDQ program is one of only a few models that demonstrate how institutions composed of local fishers can be structured within existing legal, political, and social institutions.

Townsend begins with a review of the history of the walleye pollock fishery in the Bering Sea which is the largest single fishery in the world, tracing the evolution of the fishery as it changed from an entirely foreign fleet to an entirely U.S. fleet by 1991. Overcapitalization of the fleet is discussed along with

division of the fishing season into an “A” roe season and a “B” non-roe season, amendments creating inshore and offshore allocations, a moratorium on new vessels in 1995, and allocation of 7.5 percent of the TAC to the CDQ program. In 1993 the NPFMC extended the community development quota to halibut and sablefish through amendment 15 to the Fishery Management Plan for the Groundfish Fishery of the BSAI area. Amendment 15 also created individual transferable quotas (ITQs) for the non-CDQ halibut and sablefish fisheries. Guidelines for a set aside of 7.5 percent reserve for crab and all remaining groundfish species were announced by NPFMC in 1995. The crab CDQ was to be phased in over the period 1998 to 2000.

Townsend discusses the workings of each of the CDQ groups in their early years. He also examines the administrative structure created by the State of Alaska and the implications of that structure on the CDQ program.

The major findings of the study are as follows:

- Administratively, the CDQ program is essentially a state granting process to local economic development agencies. The fishery resource is under federal jurisdiction, but the authority for implementation of the program is vested with the State of Alaska.
- The state’s CDQ allocation decision process is characterized by a lack of transparency. The state seems to have signaled a shift away from relying primarily on assessments of future merit towards an increasing emphasis upon past compliance and past performance. Further, the state’s allocation decisions could be interpreted as favoring direct participation in the pollock industry (e.g., through a direct investment in a catcher processor).
- The state’s decision to allow each CDQ group, in contrast to publicly held corporations or ANCSA corporations, to determine what information is to be kept confidential has, in some cases, hindered public access to the information necessary to assess fully the CDQ program’s performance. CDQ groups vary widely in how they have used this discretion.
- While the pollock CDQ created essentially a “community ITQ” within an otherwise open access fishery, the halibut CDQ created a community open access fishery within an otherwise ITQ fishery.
- CDQ groups have captured very significant economic rents from their pollock quotas.
- Investments by the CDQ groups in catcher-processors can result in de facto subsidies for these catcher-processors if the processors are less efficient than their competitors are.
- However, if the non-CDQ portion of the pollock fishery was converted to individual transferable quotas (ITQs), it is certain that both CDQ and ITQ lease values would decrease.
- Halibut and sablefish CDQs were allocated in 1995. Local fishers are potential users of the halibut quota. Sablefish is not a traditional target species for local residents. Sablefish could be treated like pollock by the CDQ groups but their allocations were very small, making it difficult to find a market.
- Atka Fishermen’s Association and the Pribilof Islands fishers received relatively large halibut quotas that will probably generate significant economic rents. Economic theory and initial reports from the 1995 halibut CDQs suggest the economic effect of halibut CDQs will vary among the groups in relation to the ratio of halibut quota to local population. This economic stimulation could reshape the Atka economy.
- Apart from pursuing employment on catcher processors and funding scholarships, the CDQ groups have taken very different approaches to economic development. CBSFA and APICDA have emphasized the role of enabling infrastructure investments. BBEDC has emphasized the

importance of human capital and long-term capital accumulation. YDFDA has invested in small-scale “learning by doing” projects. CVFC has mainly invested in a single large project (catcher processor). NSEDC has pursued a very mixed strategy towards economic development.

- Aggressive enforcement is needed to ensure that the fishing partners of CDQ groups do not exceed their CDQ allocation.
- The stipulation that CDQ groups invest only in fisheries-related activities, together with the competition among CDQ groups to exploit Alaska’s limited fishery resources, could result in CDQ funds being used to overcapitalize fisheries that are already fully exploited.
- The CDQ groups have made no effort to use their authority directly or indirectly to exercise any management responsibility.
- If some type of community organization (such as a CDQ group) can be assigned the ability to collect some or all of the economic rents, an obvious step would be to require that the organization finance fisheries enforcement, administration, and research.

Townsend concludes:

The Alaskan CDQ experiences provide only a limited basis for evaluating community-based fisheries management, because economic development is the primary thrust of this CDQ program. However limited the evidence, the experiences with CDQs in Alaska do suggest that that there are opportunities for greater community authority in fisheries management and that there are some predictable risks in community-based fisheries management.

Keys, Kacy Collons. 1997. “The Community Development Quota Program: Inequity and failure in privatization policy.” *Journal of the American Indian Culture & Research*. Vol. 21, Issue 1.

Keys examined the current trend of privatization in environmental policy. She uses the implementation of the CDQ program in western Alaska as a case study to test her hypothesis that market based solutions are inadequate to address either conservation or economic development concerns. Keys draws parallels between the Alaska Native Claims Settlement Act (ANCSA), a policy that privatized Native Alaskan lands in the 1970s, and the CDQ program, which has privatized Native Alaskan fishing rights in the 1990s. According to Keys, both ANCSA and the CDQ program introduced competitive values and corporative institutions into a culture based on cooperation and community values. She contends:

The CDQ program has excluded the traditional and subsistence interests of local native villages even as it has attempted to include natives in the fishing industry.

In Alaska, the state constitution mandates that “no exclusive right or special privilege of fishery is allowed.” In contrast, federal law gives subsistence fishing priority over other fishing in federal waters. As a result, the State of Alaska has had to forfeit management of hunting and fishing on federal lands and waters, and the federal government has full jurisdiction over management of Alaska ocean fisheries.

This journal article includes a brief history of fisheries management in the United States, including ITQs, a discussion of subsistence issues in Alaska as they relate to Alaskan Natives and Alaskan fisheries, along with an examination of the historical and current conditions in the western Alaskan region. Her legal analysis concludes that the CDQ program, as codified in the Code of Federal Regulations, does not agree with previous statutory and case law affecting Native Alaskans and calls the legality of the CDQ program into question. She recommends that in order to protect subsistence

culture and fishing rights that the statute implementing the CDQ program be modified to reconcile current fisheries management and economic development policy with past legal obligations.

Measuring the success of the CDQ program can be problematic when the number of jobs created is used as an evaluation criteria. Previous studies have found that Native Alaska communities often prefer subsistence-based economies to market-based ones. While jobs may be a measure of “success” of economic development and progress, the goal of the CDQ communities may include the desire to maintain subsistence activities because of the cultural benefits.

Keys makes three recommendations that she proposes would help integrate the CDQ program’s structure with the cultural values of western Alaska communities and promote community self-determination. Guarantee a percentage of TAC based on aboriginal fishing rights, and not contingent upon a corporate structure, or for profit fishing practices.

- Understanding that subsistence provides the basis for Native Alaskan culture and community, and that native villages are entitled to generate income and infrastructure through fishing practices, and still maintain protection of their subsistence rights.
- Integrate native tribal government structures into the planning and implementation process of the CDQ program.

Northern Economics, Inc. March 9, 1998. *Task 1 Report: Summary of Currently Available Information Relevant to the Social and Economic Database for the Western Alaska Community Development Quota Program. Prepared for the Bering Sea Fishermen’s Association.*

Introduction

This document provides an extensive summary of available information regarding the western Alaska CDQ program relevant to CDQ groups, oversight agencies, and other interested observers. This information could be used to populate a CDQ Social and Economic Database (CDQ-SED). The idea of a CDQ-SED was developed to meet the increasing need for social and economic information about CDQ groups and their communities. Generally, every two years, CDQ groups must submit an application for their harvest allocation quota, which requires detailed descriptions of the social and economic objectives and achievements of each group.

Finding data can be difficult, because available information is spread among numerous federal and state agencies. In addition, with the formation of the six CDQ groups, essentially six new geopolitical units were created—units that do not correspond with existing boroughs or census areas. CDQ communities are spread among seven borough and census areas: Aleutians East Borough, Aleutians West Census Area, Bethel Census Area, Bristol Bay Borough, Dillingham Census Area, Lake and Peninsula Borough, and Wade Hampton Census Area. Fifty-seven of the 122 communities contained within these seven borough and census areas make up approximately 52 percent of the total population.

The CBSFA contains only one community, Saint Paul, which is part of the Aleutians West Census Area. The Aleutians West Census Area also contains three communities, Atka, Saint George, and Nikolski, which are part of APICDA. APICDA in turn contains another three communities from the Aleutians East Borough: Akutan, False Pass, and Nelson Lagoon. BBEDC has 14 participating communities spread across three borough/census areas: Bristol Bay Borough, Dillingham Census Area, and Lake and Peninsula Borough. CVFC includes 14 communities from the Bethel Census Area and 3 communities from the Wade Hampton Census Area. All 15 communities in Economic Development

NSEDC are located in the Nome Census. The four communities that make up the Fisheries YDFDA are all found within the Wade Hampton Census Area. It is easy to see why information collected at the borough and census area level may not be as useful for some CDQ groups as information collected at the community level.

Two categories of data will be included in the CDQ-SED—primary data and secondary data. Most organizations including the CDQ groups use a combination of primary and secondary information, but as organizations evolve, their data needs may also change. The CDQ groups are finding that the secondary data upon which they have been relying are no longer meeting their needs.

Development of the CDQ-SED would serve several purposes.

- Assisting the CDQ groups in finding and developing additional data sources
- Determining whether existing primary data meet the needs of the programs
- Defining those areas in which new data collection processes are needed.

Over 80 agencies and organizations were contacted and queried about the data they collect or possess about communities in the CDQ program. This report identifies and discusses the kinds and availability of information collected by CDQ communities, CDQ groups, various state and federal agencies, and selected nongovernmental organizations.

Data Available from CDQ Communities

Mail surveys were sent to the mayors and administrators in the 57 CDQ communities asking what type of information they collect and maintain and whether they would be willing to make their information available to the CDQ-SED. Only thirteen communities responded which is not a high enough percentage to make statistically valid inferences, but their responses do provide some insights into the type of data collected by communities in western Alaska.

Twelve communities collect information on their communities' population. Eight collect information of business activity within their communities. Only two collect commercial fisheries information that is different from the information maintained by state and federal governments. Only four communities collect information on the number of the public and private sector jobs in their community. None of the responding communities collects information on schools or community education beyond what is collected by state and federal agencies. Seven communities collect information on the ethnic or cultural background of residents of their community. Six communities maintain information on the subsistence activities of their residents. Eight of the 13 collect information on the number and types of housing units in their community. Five communities collect some information dealing with community health and well-being.

Data Available from CDQ Groups

The six CDQ groups collect and maintain information that they need for state and federal oversight purposes, including information on goals, objectives, milestones, employment, internships, revenues, expenditures, training programs, infrastructure development projects, and activities of their fishing and processing branches. In addition, several CDQ groups have conducted surveys of households in their member communities.

In general, leaders of CDQ groups are concerned that development of the CDQ-SED will add another administrative burden, but at the same time acknowledge that if a uniform data collection system was implemented, it could make their jobs easier. This report also discusses some of problems inherent in

the way employment and wage data are collected by CDQ groups because of the lack of uniform reporting standards. Also discussed is the way such data appears to be used in the competition for quota allocation between the groups.

Data Available from the State of Alaska

The Alaska State government has 15 departments, each of which contains many divisions and program offices along with several “quasi departments” such as the offices of the Governor and Lieutenant Governor, the Alaska Court System, the Alaska legislature, U.S. Congressional Offices, and the University of Alaska system. All of these entities collect the primary and secondary information they need for implementing their programs and projects. This document focuses on a review of information from eight departments that collect and maintain information relevant to the CDQ-SED:

- Alaska Department of Revenue
- Alaska Department of Labor
- Alaska Department of Health and Social Services
- Alaska Department of Community and Regional Affairs
- Alaska Department of Public Safety
- Alaska Department of Administration, Division of Motor Vehicles
- Alaska Department of Fish & Game
- University of Alaska

The Alaska Department of Revenue collects information on income and excise taxes and Alaska Permanent Fund Applications. The Alaska Department of Labor (ADOL) produces the official population estimates for the state and collects primary wage and salary employment and earnings data. ADOL also produces monthly estimates of unemployed members of the labor force for the state and then apportions unemployment out to the borough and census area levels using a methodology prescribed by the Bureau of Labor Statistics (BLS). Unemployment estimates in Alaska are not viewed as very reliable because of the large number of discouraged workers who have not made an active attempt to look for work in the previous four weeks. ADOL also makes estimates of the total labor force for the state and apportions it between borough and census areas in a manner similar to unemployment estimates. While the ADOL does not produce cost of living estimates, their web page provides a good reference of the major indexes such as the consumer price index, the American Chamber of Commerce Researchers Cost of Living Index, the Runzheimer Living Cost Standards Survey, and the Cost of Food at Home Study produced by the University of Alaska Cooperative Extension Service.

The Research and Analysis Division of the ADOL frequently conducts special projects in response to requests from other departments, members of the State Legislature, or the U.S. Congressional delegation. ADOL would consider developing estimates of unemployment at the CDQ group level and /or developing wage and salary employment and earnings at the community level.

Three divisions of the Alaska Department of Health and Social Services collect information that is pertinent to the CDQ program: Division of Vital Statistics, Division of Public Assistance, and Division of Alcohol and Drug Use. The Bureau of Vital Statistics reports and analyzes vital events such as live births, fetal deaths, adoptions, marriages, divorces, and deaths. The Division of Public Assistance (DPA) is responsible for state programs including Food Stamps, Alaska Temporary Assistance, and Medicaid. While the information contained in DPA would be useful for the CDQ program, DPA's

mainframe computer system makes access difficult and time consuming. The Division of Alcohol and Drug Abuse (DADA) is responsible for implementation of a statewide strategy to reduce alcohol, other drug and inhalant abuse, and their harmful consequences. They collect primary data about individuals and secondary information about many drug and alcohol programs.

The Alaska Department of Community and Regional Affairs is a veritable warehouse of community information. The Community Development Quota Section of the Municipal and Rural Assistance Division maintains and coordinates state oversight of the CDQ program by handling the CDP application process and acting as a clearinghouse for annual and quarterly reports. The Research and Analysis Section maintains an extensive data collection of community level data available on its web site including summaries of the history, economic culture, climate, facilities, population and housing characteristics, and listings of municipal employees, municipal finances, business licenses, and capital projects.

The Alaska Department of Public Safety includes the Division of Alaska State Troopers, (AST) the Division of Fish and Game Wildlife Protection, Division of Marine Safety, and the Division of Fire Prevention along with management of the Public Safety Academy. AST manages the statewide crime report database, which includes all crime reports made by state troopers, village police officers, marine safety officers, and fish and wildlife protection officers. The database does not necessarily include crimes in communities that have their own police force. Only 8 of the 57 CDQ communities maintain their own police force.

The Division of Motor Vehicles of the Alaska Department of Administration requires all motor vehicles including snow machines and some ATVs and off-road motorcycles be registered. While the information in the DMV database is confidential, it can be accessed for legitimate research and statistical purposes.

Since the primary goal of the CDQ program is to provide access to commercial fisheries in the BSAI area, it is expected that the CDQ-SED will contain commercial fishery data. The Alaska Department of Fish and Game (ADF&G) manages some of the commercial fisheries in the state, while it shares responsibilities for other fisheries with the federal government. NMFS has primary responsibility for managing groundfish fisheries although ADF&G provides data collection and participates in policymaking through its role in the North Pacific Fishery Management Council. This document describes in detail the complex flow of commercial fisheries data through ADF&G. The Commercial Fisheries Management Division (CFMD) creates a database listing the processors that have filed an Intent to Operate. Processors fill out a fish ticket for the delivered catch by species that includes the fisher's state identification number and the state's vessel registration. Both the CFMD and the Commercial Fisheries Entry Commission (CFEC) use information from fish tickets. The CFMD uses information from the fish tickets for in-season management and in the assessment of biomass and future harvest levels. CFEC adds an estimate of the ex-vessel value of the fish delivered to processors and then stores the computerized record in a fish ticket database.

ADF&G, through its Subsistence Division, maintains a Community Profile Database (CPDB) that contains data from 106 studies covering 203 communities. A sample of households is surveyed in each community for a variety of demographic questions and very detailed questions about subsistence use patterns. The Subsistence Division has conducted these subsistence surveys in 46 of the 57 communities in the CDQ program. However, some of the studies date back to 1980.

Five separate entities within the University of Alaska system maintain information relevant to the CDQ-SED. The Institute of Social and Economic Research established by the Alaska Legislature in 1961 analyzes major public policy issues in Alaska. The Fishery Economic Center at University of Alaska Fairbanks (UAF) conducts research on the economics of fisheries management, marketing, and processing. The Alaska Sea Grant Program based at UAF is part of the National Sea Grant program

which encourages wise stewardship of marine resources through research, education, outreach, and technology transfer. The Fishery Industrial Technology Center in Kodiak is involved in research and outreach programs for the Alaska fishing industry. Finally, the Alaska Cooperative Extension (ACE), with local offices throughout the state, is an education delivery system supported through a partnership between the U.S. Department of Agriculture and the State of Alaska through UAF. Of particular interest to the CDQ-SED may be the ACE study that compares living costs among locations in Alaska.

Data Available from the Federal Government

Numerous federal agencies collect and maintain data relevant to the interests of the CDQ groups.

National Marine Fisheries Service (NMFS)

NMFS shares management responsibility of most of the commercial fisheries in Alaska with the State of Alaska. NMFS has primary management responsibility for the groundfish fisheries in the BSAI and the GOA. NMFS shares responsibility for the halibut fishery with the International Pacific Halibut Commission. The Restricted Access Management Division (RAM) maintains the federal fishing and processing permit databases for the Alaska region. The database includes information on all fishing vessel owners and processors intending to operate in the groundfish or crab fisheries managed by NMFS including those operating under the CDQ program. The information collected includes the Alaska vessel identification number as issued by CFEC, ADF&G processing permit numbers, identification of the vessel owners and their place of residence, and the U.S. Coast Guard vessel number for larger vessels. RAM also has primary responsibility for management and monitoring the total catch in the Individual Fish Quota (IFQ) and CDQ fisheries for sablefish and halibut. RAM maintains permit files for the sablefish and halibut IFQ fisheries, for vessels participating in the CDQ fisheries, and for registered buyers of sablefish and halibut. RAM also maintains confidential data files on the permit information of both the buyer and seller of IFQ and CDQ sablefish and halibut landings.

The Sustainable Fisheries Division (SFD) is responsible for the catch and processing data used in monitoring the groundfish fisheries in the BSAI and the GOA. The SFD maintains weekly product report data from off-shore and shore-based processors. This information is combined with the weekly observer data reports to produce “blend data” considered by SFD to be the best estimates of total catch for catcher-processors and mothership operations.

The Alaska Fishery Science Center in Seattle maintains confidential observer data to provide independent estimates of the catch and processing operations of all of the groundfish fisheries. Observer data are perhaps the best available source regarding the incidental catch of species that were not the target of the fishing operation (bycatch).

While the NPFMC does not collect its own primary data, it maintains perhaps the broadest collection of primary data to be found in one location to provide support for preparation of their regulatory impact reviews. Their data collection includes fish-ticket, permit and vessel databases from CFEC, and the weekly product report, blend, fishing permit, and processing permits databases from NMFS. In addition, NPFMC conducts special studies such as a nine-document set that profiles every Alaskan coastal community from Kotzebue to Metlakatla. The profiles, *Faces of the Fisheries*, highlight the involvement of each community with fisheries off the coast of Alaska.

Internal Revenue Service (IRS)

The IRS develops statistics and databases from tax returns from all citizens, residents, and for-profit businesses in the U.S. Data on number of returns and exemptions, adjusted gross income, itemized deductions, taxable income, tax liability, and earned income credit are available at the state or county level. Also available from the IRS are migration data on a county-by-county basis.

Bureau of Transportation Statistics (BTS)

The BTS maintains several databases that report on the use of transportation infrastructure projects in which the federal government participates. For example, BTS maintains a database with detailed enplanement data as reported to the Federal Aviation Administration by all certified air carriers. Such information could be used as an indicator of economic activity.

U.S. Army Corps of Engineers (COE)

The COE maintains an extensive library of project reports on infrastructure development projects in Alaska. Fifty-eight of these reports are about one or more of the CDQ communities and contain pertinent social and economic information. The COE, through the Waterborne Commerce Statistics Center, also maintains primary data regarding waterborne commerce.

Minerals Management Service (MMS)

The MMS is a branch of the U.S. Department of the Interior, which is charged with managing the mineral resources of the Outer Continental Shelf in an environmentally sound and safe manner and with collecting, verifying, and distributing mineral revenues from federal and Indian lands. MMS sponsors social and economic studies with the goal of providing the information necessary to develop accurate and defensible environmental assessments and to make possible the monitoring of environmental effects from development. These studies include two technical reports that attempt to define measures of well-being for CDQ communities, which may be of use to CDQ groups for measuring their progress internally. The two most relevant reports are:

- Technical Report 150 (TR150), *Bristol Bay Subsistence Harvest, and Sociocultural Systems Inventory*. August 1992.
- Technical Reports 151 – 154 (TR151-54), *Social Indicators Study of Alaskan Coastal Villages*. February 1994.

The first study, TR150, identified a positive correlation between commercial fishing activity and subsistence harvesting activity.

U.S. Census Bureau (USCB)

USCB, part of the U.S. Department of Commerce, is best known for its decennial census of the population and other demographics of the U.S. The decennial census has been conducted every ten years since 1790. It provides aggregated demographic information down to the city level. The USCB also conducts several smaller surveys, described at http://www.census.gov/main/www/sur_demo.html. Also of relevance to the CDQ program are the American Community Survey, which provides demographic information on a more frequent basis for states and larger cities, and the Current

Population Survey, which uses random sampling to estimate labor-force characteristics of the U.S. population.

Bureau of Labor Statistics (BLS)

The Alaska Department of Labor (ADOL) and labor departments in each of the other 49 states all supply data to the U.S. Department of Labor's BLS. BLS summarizes and compiles the local information to produce monthly estimates of employment and unemployment for the U.S. as a whole. Because BLS relies on estimates coming from each state, the information in Alaska is no different from the information found at ADOL. The CDQ-SED could possibly use national or regional estimates of employment for comparison to statewide numbers; otherwise, there is probably little need to access BLS employment data.

BLS also compiles the consumer price indices for the U.S. and for selected cities. These are the same index numbers reported by ADOL.

Bureau of Economic Analysis (BEA)

The BEA, an agency of the U.S. Department of Commerce, prepares estimates to illuminate key national, international, and regional aspects of the U.S. economy. BEA integrates and interprets a tremendous volume of data to draw a complete and consistent picture of the U.S. economy. BEA's economic accounts – national, regional, and international – provide information on such key issues as economic growth, regional development, and the nation's position in the world economy. The BEA may be located online at <http://www.bea.doc.gov/>.

One of the BEA's products is the Regional Economic Information System (REIS), which provides information for all states and counties (boroughs and census areas). Available on a CD-ROM for the years 1969-1999, this source is of great interest to the CDQ-SED. Included in the REIS data are:

- Estimates of annual personal income by major source
- Per capita personal income
- Earnings by two-digit industry codes as defined by standard industrial classification (SIC) system
- Full- and part-time employment by one-digit SIC industry codes
- Regional economic profiles
- Transfer payment by major program
- Farm income and expenses
- Quarterly personal income by state

The employment and earnings data included in the REIS CD-ROM is based on state-level data. The information in the database is designed to be internally consistent, although updates from year to year often change the estimates. Because REIS data are developed using a top-down apportionment approach, some inaccuracies inevitably arise. These inaccuracies often appear in the form of employment and incomes at the county level in industries that do not exist in that county.

Release of REIS data generally are delayed for up to 2 years, and the most current data available are for 1999. Earnings and employment estimates are available within months of data collection from ADOL.

Another data source produced by BEA is the Regional Industrial Multiplier System (RIMS). Developed in the mid-1970s, RIMS provides a method for estimating regional I-O multipliers. In the mid-1980s, BEA completed an enhancement of RIMS, known as RIMS II. RIMS II can provide I-O multipliers to estimate the impacts of project and program expenditures by industry on regional output, earnings, income, and other labor income, less employer contributions to private pension and welfare funds, and employment. RIMS II can also be used to produce reasonable projections of economic impacts of projects or programs at a county (borough or census area) level, and multipliers derived from RIMS II should be considered for inclusion in the CDQ-SED. The drawback of RIMS II is that it is not an interactive modeling system, and estimates are based on national level technology data that may differ from the study area. A more thorough examination of RIMS II can be found on the BEA web site at <http://www.bea.doc.gov/bea/regional/rims/>.

Data Available from Non-Governmental Organizations

Other non-governmental organizations maintain collections of data relevant to the development of the CDQ-SED. Some of these organizations are discussed below. Because many of these organizations operate on a for-profit basis, data are less likely to be provided without compensation.

Minnesota IMPLAN Group (MIG)

MIG is dedicated to providing quality data and tools to use for economic and market analysis. MIG is the distributor of IMPLAN Pro© software, a national and regional input-output, I-O, modeling system. MIG also distributes a “value-added” version of the REIS database produced by BEA. IMPLAN is an interactive, hands-on I-O model that uses a set of county-level economic accounts to produce direct, indirect, and induced multipliers from changes in a region’s industrial activity.

Northern Economics, Inc. (NEI)

NEI, in Anchorage, Alaska, has extensive experience analyzing the impacts of changes in Alaska coastal communities. Over the years, economists at NEI have developed several economic impact models that are relevant to the CDQ-SED. Three of these models are described below.

Community and Regional Impact Models (CRIMs)

CRIMs focus on fishing and processing activities to aid decision makers. These models combine estimates of catch, cost, and revenue from fishing and processing operation with economic response coefficients or multipliers to generate estimates of income, reemployment, and other changes in the economy as they ripple and multiply through the community and region. CRIMs are based on the IMPLAN I-O model originally developed for the U.S. Forest Service, and an adaptation of IMPLAN developed by Dr. Bill Jensen and Dr. Hans Radtke known as the Fishery Economic Assessment Models.

Fishery Impact Models (FIMs)

NEI has developed FIMs to evaluate the effects of changes in offshore and near-shore fisheries on local communities. Projected harvests or quotas are combined with historic harvest data by geographic area to allocate harvests between onshore and offshore fleets. Harvests by the onshore fleets are allocated to onshore processing locations using a transportation cost function for various vessel types and the capacity of processing facilities, using historic employment as a surrogate for processing capacity. The models employ break-even estimates for major fisheries and the vessel/gear

types employed in them, plus data on expenditure patterns for each major vessel type by major category and geographic region to determine the level of expenditures in each community.

Economic and Demographic Models (EDMs)

NEI, working with the Arctic Slope Consulting Group, developed EDMs for 231 communities that were included in a long-range transportation plan developed for the U.S. Bureau of Indian Affairs in 1989. All but three of the CDQ communities – Ekuk, King Salmon, and Port Heiden – were included in the study. The EDMs were used to forecast population growth and economic development in each of the communities based on a recursive model that is based on population and employment.

It is possible that the EDMs developed in 1989 could serve as a baseline estimate of the economies of the CDQ communities. It is also possible to generate EDMs based on more recent information such as the 2000 U.S. Census, and population and employment estimates developed the ADOL. Because the EDM rely on consistently available sets of information it is likely that they can be recreated for years for which the CDQ community has been in place.

Other Data Sources

The McDowell Group, Impact Assessment, Inc., Graystar, Stephen R. Braund & Associates, Motznik Computer Services, Inc., and LEXIS-NEXIS are other organizations that either have completed analyses or have information available that may be applicable to the CDQ-SED.

Summary of Data Collections by Type

The study concludes with a summary of the significant amount of information available about CDQ communities sorted by data type and sources:

- Population
- Business Activity
- Income and Employment
- Fisheries
- Subsistence and Sociocultural Information
- Education, Health, and Well-Being
- Economic Impact Models

Northern Economics, Inc. March 19, 1998. Task 2: The Social and Economic Database for Western Alaska Community Development Quota Program Discussion Worksheet and User Survey. Prepared for Bering Sea Fishermen's Association.

This worksheet/ user survey was designed to identify types and sources of data needed for evaluation of the CDQ program. The survey was sent to each of the CDQ groups and to agencies dealing with the CDQ program.

Northern Economics, Inc. August 8, 1998. *Task 3 Report: Summary of CDQ-SED User-Survey Responses.* Prepared for Bering Sea Fishermen's Association. NOAA Grant #NA66FM0291.

This report summarizes responses from distribution of a Program Discussion Worksheet and User Survey to CDQ groups and agencies dealing with the CDQ groups. The purpose of the study was to obtain input on the type and sources of data needed for the CDQ-SED. Seven responses were received including four from the six CDQ groups. Respondent comments are categorized into several categories including general comments, source and data types identified by at least five of the seven respondents, data types identified by three or four respondents, and data types identified by less than two respondents.

Under general comments, all respondents felt the CDQ-SED should be developed and maintained as an Internet database that would contain a library of studies and reports about western Alaska communities, the CDQ program, relevant research, as well as links to other pertinent data sources.

Most of the respondents thought the CDQ groups should play a role in the collection of new data, but that the CDQ-SED should not sponsor or develop independent research on social and economic impacts of the CDQ program. The CDQ-SED should function only as a distributor of information

Some of the data sources supported by at least five of the seven respondents include population and ethnicity estimates, business activity data collected from communities, housing data, subsistence data, public safety data, IRS income information, and wage and salary employment estimates. At least five of the seven respondents thought information should be collected from the CDQ groups on scholarships, training, programs, and loan programs. They also requested cost information on infrastructure development projects, and partnership employment data including the number of people making a first trip, two to five trips, and more than five trips. It was also suggested that data be collected on the number of people who received promotions, the total amount of earned income, total earned income as a percent of the population (per capita income), and Public Assistance participation data.

Requested fisheries related data included the salmon marketing tax, seafood marketing assessment, fisheries business license fee, fisheries business tax, fisheries resource landing tax, CFEC vessel registration and permit databases, IFQ permits, transfer and registered buyer databases, and the ADF&G Subsistence Community Profile Database, among others.

Northern Economics, Inc. September 10, 1998. *Task 4: Final Report. Contents and Implementation of a Social and Economic Database for the Western Alaska Community Development Quota Program.* Prepared for Bering Sea Fishermen's Association. NOAA Grant #NA76FM0565.

This final report of Phase I of the BSFA efforts to develop a CDQ-SED identifies the information that should be included in the database and develops an implementation plan for the CDQ-SED. Phase II will be implementation of the database—conceptual and physical design including the initial acquisition of data. General parameters for the CDQ-SEQ are established and specific recommendations are made on the data to be included. Eleven types of data were identified for inclusion: population, commerce, income, employment, fisheries, subsistence, demographic, infrastructure, education, and health and well being. Phase III is identified as the maintenance and continued development of the CDQ-SED.

North Pacific Fishery Management Council (NPFMC). December 1, 1998. *Environmental Assessment/Regulatory Impact Review/Final Regulatory Flexibility Analysis for Amendment 45 to the Fishery Management Plan for Groundfish in the Bering Sea and Aleutian Islands Area – Permanent Extension of the Allocation of Pollock to the Western Alaska Community Development Quota Program.*

Recent amendments to the Magnuson-Stevens Fishery Conservation and Management Act indicate that the pollock CDQ program should not be temporary and that it should be combined with the multi-species program. In order to extend the pollock CDQ program past 1998, the NPFMC must recommend an amendment to the Fishery Management Plan for the Groundfish Fisheries of the BSAI area. Two alternatives were considered as required by National Environmental Policy Act of 1969 (NEPA), Executive Order 12866, which requires a regulatory impact review of the alternatives, and the Regulatory Flexibility Act.

- Alternative 1. No action.
- Alternative 2. Permanently extend the pollock CDQ program at 7.5 percent of the TAC.

Alternative 2 was identified as the preferred alternative because it is the only alternative consistent with Congressional intent to have a pollock CDQ program for western Alaska. The program generates an average of \$2 million in annual wages, and \$10.2 million net income on annual revenues of nearly \$20 million to CDQ program recipients. The CDQ program was determined to have a “differentially higher economic impact when compared to other regions of the State of Alaska and the United States in general.” Neither alternative was expected to have a significant impact on endangered or threatened species or to result in a “significant regulatory action” as defined in NEPA.

National Research Council, 1999. *The Community Development Quota Program in Alaska.* National Academy Press, Washington, D.C.

The 1996 reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act mandated that the National Academy of Sciences (NAS) conduct a broad review and report on the performance and effectiveness of the CDQ program in Alaska. In addition, the committee was to evaluate the potential for such a program for the western Pacific. The reauthorization also mandated creation of another committee to review individual fishing quota alternatives. These requests by Congress were in response to the ongoing policy debate about how to address overcapitalization of the open access pollock fishery.

The National Research Council (NRC) is the operating arm of NAS. The review committee was composed of ten volunteer experts who spent approximately 18 months talking with people, gathering data, and deliberating on the strengths and weaknesses of the CDQ program.

Chapter 1: Introduction

Chapter I provides a brief overview of the Bering Sea Fishery, the CDQ program, a discussion of the CDQ program in the context of fisheries management, and outlines the committee’s task and approach.

The Committee made a point of describing the harvest privileges of the CDQ program as a “quota-based” fishing management regime as contrasted to “rights-based fishing” which is a more traditional

option of fisheries management in the U.S. The committee felt that the term “rights-based” fishing implies an inappropriate sense of ownership or entitlement to a public resource.

At the time the report was written, there were 57 CDQ communities organized into six CDQ groups. In the CDQ program, the communities are allocated a portion of the TAC. Communities are allocated a share of the total annual harvest, not a specified amount of fish. This portion of the catch has both political and biological implications. In terms of biology, the catch comes out of the TAC and is not an additional allocation. However, politically, the CDQ allocation does reduce the amount of the TAC available to the non-CDQ commercial fishery. While the CDQ allocation is drawn from a 15 percent reserve set aside by the NMFS for in-season management purposes, in the past the reserve was released to the commercial fishery.

In effect, there are two different fishery management regimes in place in the Bering Sea. The non-CDQ pollock fishery is managed as a controlled “open access” fishery by setting seasons and closing the fishery once the TAC has been harvested. In such an open access fishery, fishers are pressured to harvest as many fish as fast as possible leading to a “race for fish.” The incentives are also in place to build more vessels so that more fish can be harvested in even shorter amounts of time which can lead to overcapitalization of the fishery.

The CDQ program is described as a “limited access program” because specified individuals or groups (CDQ communities) have harvest rights while others do not. As a result, CDQ group vessels can fish at different times than the open access fishery. The result is better prices and increased efficiency because CDQ groups can partner with vessels that have just finished fishing one of the open access seasons.

The Committee views the CDQ program as one component of a “nested hierarchy of management structures and processes that operates in the North Pacific.” However, the Committee states that the CDQ program is not to be confused with “community-based management of fisheries,” because the CDQ communities do not have a direct say in setting the allocation. Quotas for the CDQ program are determined by the NPFMC and the NMFS.

Chapter 2: Description of the Region and Fishery

An overview of the biological conditions of the Bering Sea fisheries, social history of the region, and structure and historical development of the fishing industry in the region are described in Chapter 2. The report acknowledges and outlines the unique biological, social, and economic conditions of western Alaska and the implications these factors may have on transferring the CDQ concept elsewhere. The Committee emphasized that an evaluation of the effects of the CDQ program on participating western Alaska communities requires an understanding of the historical relationship between the indigenous peoples of the eastern Bering Sea and their use of marine resources.

Biological, Social, and Economic Conditions of Western Alaska

The Bering Sea covers 3 million kilometers and is a highly productive ecosystem with 50 commercially important fish species along with 50 species of marine mammals. The groundfish species in the region include walleye pollock, Pacific cod, several flatfish and rockfish species, and sablefish. Pollock is a major commercial food source, marketed as fillets, surimi, and roe. Issues of concern in the reauthorization of Magnuson-Stevens Act in 1996 included maintaining sustainable fishery populations, reducing bycatch of non-targeted species, and minimizing negative impacts of the fishery on the marine mammal and migrating bird populations of the region. Many consider the domestic

fisheries in the region to be overcapitalized. Overcapitalization means there are more boats and harvesting capacity than there are fish.

Two general trends in adaptation strategies used by the indigenous people of the eastern Bering Sea have been identified and are related to characteristics of the Bering Sea ecosystem. These characteristics, the occurrence, or non-occurrence of winter pack ice and variation in the nature of available food resources, vary as one moves from south to north. Occupations that are more sedentary came earlier to people in the southern areas of the Bering Sea as compared to the northern areas. Adaptation strategies in both areas became increasingly complex over time.

Several distinct strategies of adaptation to marine resources are apparent including:

- Mixed subsistence in the Aleutian Islands where inhabitants made substantial use of the rich intertidal resources of the area, including shellfish, sea urchins, chitons, seaweeds, birds, fish, and sea mammals.
- A riverine strategy along the Brooks River drainage and the Alaska Peninsula combining salmon resources with caribou harvests.
- A reliance on winter use of seals with hunting being conducted through the pack ice along the Cape Denhigh region in Norton Sound.
- A group harvesting and sharing of large sea mammals such as walrus and bowhead whales strategy on Saint Lawrence Island.
- A diversified mobile strategy in the Yukon Kuskokwim delta that combined the harvesting of many resources such as migratory waterfowl, small freshwater fish, small sea mammals, and herring.

Each linguistic group's historical experiences were marked by the timing of their initial contact with Euroamericans and the degree to which their community was penetrated by market-oriented economic development. In all groups, the acquisition of skills needed to provide sustenance for their families was an important aspect of their cultural ideology. With a clear division of labor between men and women, males acquired hunting and fishing skills, while females acquired skills needed for preservation of food and the sewing of skins for clothing and boat covers. All groups valued and practiced generosity and sharing and viewed people as being interdependent with the resources that sustained them.

Structure and History of the Commercial Fishing Industry in the Bering Sea and Aleutian Islands

An understanding of the complexities of fisheries management in the North Pacific and the historical development of the domestic commercial fisheries in the area provides needed context for an evaluation of the CDQ program and its effects on participating communities in western Alaska. Management of halibut, sablefish, crab, and groundfish fisheries evolved separately from one another. Historically these fisheries have been managed separately. Important aspects include:

- Identification of participants
- History of the domestic fishery
- How the domestic industry was actively "developed"
- The extreme variability of the fishery resources

Commercial Halibut Fisheries

According to the NRC, residents of participating CDQ communities have a longer history in the halibut fishery than in any of the other Bering Sea fisheries, because halibut can be targeted by small boats. However, approximately 33 percent of the catch in 1996 in the combined IFQ and CDQ Area 4 (the overall management area established by the International Pacific Halibut Commission [IPHC]) was harvested by vessels longer than 55 feet. Approximately 5.27 millions pounds of halibut were harvested that year in Area 4 by 313 vessels. Before 1995, the halibut fishery was conducted as an open access fishery, but concerns about short seasons, overcapitalization, and safety, among others, led to the implementation of the Alaska halibut and sablefish IFQ program.

Qualifying individual fishers were allocated a percentage—a quota share—of the TAC. Quotas were allocated based on criteria established by the NPFMC, including catch history during the qualifying years. Local residents of the fishery did not receive significant shares of the quota although boats from participating CDQ communities such as Atka, Akutan, Unalaska, St. Paul, St. George, Mekoryuk, Toksook Bay, and Tununak were part of the fishery. Exceptions occurred in sub-area 4C, Pribilof Islands, and 4E, Nelson and Nunivak Islands, because the IPHC and the NPFMC had employed several strategies in the late 1980s to provide local fishers more fishing opportunity.

Commercial Sablefish Fisheries

In contrast to the halibut fishery in the Bering Sea and the domestic sablefish fishery in the GOA, the domestic commercial fishery of sablefish in the BSAI is a recent development. Although the sablefish fishery is a longline fishery like halibut, it requires larger vessels because sablefish are generally captured from greater depths and farther offshore. BSAI residents had very low participation rates in this fishery before inception of the CDQ program.

Commercial Crab Fisheries

At the time this report was written, the BSAI crab fisheries were constrained by a moratorium on vessel entry and more restrictive license limitations were pending. The NPFMC was expected to issue species-area specific licenses to 427 vessels. The crab fishery is characterized by:

- Vessel type—A vessel that delivers live crab to a processing plant is a catcher vessel while a vessel that processes the crab onboard, as part of the harvesting activities is a catcher-processor. Licenses were to be issued to 400 catcher vessels.
- Vessel length—The majority of catcher vessels are less than 125 feet in length, while all but 2 of the catcher-processor vessels are greater in length than 125 feet. Licenses were to be issued to 27 catcher-processor vessels.
- Residency of the vessel ownership—Only 175 of the 400 catcher vessels were owned by Alaskans, with the majority being owned by residents of Washington state. The majority of catcher-processor vessels were also owned by residents of Washington State.

Except for some projected recipients of licenses for Norton Sound red and blue crab, very few of the projected crab licenses recipients were from coastal communities adjacent to the respective crab fisheries. The crab fisheries are managed by the State of Alaska under the authority delegated by the NPFMC.

Commercial Groundfish Fisheries

TAC levels are set annually for pollock, sablefish, Pacific cod, squid, yellowfin sole, rock sole, flathead sole, Atka mackerel, Greenland turbot, Pacific ocean perch, arrowhead flounder, and other flatfish and rockfish. Pacific cod, Greenland turbot, and sablefish are prosecuted using multiple gear types.

The other species are prosecuted exclusively with trawl gear. In 1995, approximately 92 percent of all groundfish by weight were harvested by trawl gear. Rock sole are prosecuted almost exclusively by catcher-processor vessels while the pollock fishery is allocated between onshore and offshore processors. Three shore-based plants are located at Unalaska and another shore-based plant is located at Akutan.

An analysis of the groundfish fisheries by the NPFMC in 1997 found that:

- An estimated 407 catcher vessels and 141 catcher-processors would receive licenses to fish in the BSAI.
- Most of the harvesting capacity in both the catcher and catcher-processor sectors resides in larger vessels some of which can exceed 300 feet.
- The majority of catcher and catcher-processor vessels are based in Washington State.
- The groundfish fisheries are highly industrialized and overcapitalized.

According to the committee, the condition of the groundfish fisheries is a direct result of government fisheries development policies pursued in the BSAI. These policies include the U.S. Exclusive Economic Zone (EEZ), the Fishery Management and Conservation Act of 1976, the Processor Preference Amendment, the American Fisheries Promotion Act, the creation and subsequent closure of joint ventures, the IFQ program, the inshore/offshore allocation, the cod trawl-fixed-gear allocation, the small boat jig-gear allocation, and the CDQ program. All of these actions were undertaken in part by the President, Congress, or the NPFMC to put in place particular “visions of development.” The committee points out that individuals who advocate ending the CDQ program do not advocate ending EEZ or other development activities that benefit them.

Development and Current Issues in Western Alaska

While the subsistence economy continues to work in some communities, the lack of economic development in many communities is a contributing factor in the social and economic problems facing many western Alaska communities. The NRC report stresses the idea that the meaning of “development” has been evolving over the past several decades. No longer is the narrow economic growth definition of expansion of production, productivity, and per capita income a sufficient definition of “development.” Newer concepts of development acknowledge the importance of enrichment of a way of life and of self determination. Economic development involves a continuous process of change—a continuous investment in human capital, natural capital, and technology for the betterment of individuals, families, and communities.

Economic development and cultural tradition are no longer viewed as antithetical concepts. The NRC committee found that integration of cultural traditions with modern technologies and goods is already taking place in western Alaskan communities. The problem faced by western Alaskan communities is how to get the monetary means from the market to support traditional subsistence values.

The NRC report acknowledges that:

...“subsistence” is no longer a phenomenon of the people’s own making, and in that sense we say it is less than a complete existence. It depends decisively and unconditionally on monetary flows from the public and private sectors for the acquisition of necessary capital. There is no going back now to fur clothing, dog sleds, and bone-pointed harpoons; the subsistence economy runs on snowmachines, motorized aluminum fishing vessels, four wheel all terrain vehicles, pickup trucks, CB radios, manufactured fishing and hunting gear, fossil fuels, camping equipment, imported cold weather clothing, and airplanes. Changes in lifestyle

including settlement patterns in the villages, improved safety, the availability of technology, and the desire for other market goods that reduce the time available for subsistence activities have contributed to the increasing importance of capital for conducting subsistence activities.

The NRC committee estimated that a household income of approximately \$20,000 to \$25,000 per year is needed to maintain a subsistence life. A variety of strategies have been adopted by Alaskan natives to maintain a subsistence life including commercial fishing and hunting, making of crafts, dividends from native corporations and the Alaska Permanent Fund, participation in the National Guard, state construction projects, loans from government agencies and fiscal institutions, and transfer payments from Aid to Families with Dependent Children. The committee stressed the paradox of this situation. In contrast to earlier social science wisdom, the synthesis of money and culture is not impossible.

Decades of study by anthropologists and sociologists have demonstrated that Alaska Native communities are open to technological innovation and adaptable to both a market economy and government bureaucracy integrating these external influences into their own cultural purposes. Several of the empirical findings of these studies have direct applicability to assessing the effects of the CDQ program on communities in western Alaska:

- Higher income levels are directly correlated with people's commitment to and their returns from hunting, fishing and gathering.
- Subsistence activities increase with the number of months of annual employment. People can succeed in both the subsistence and market economies at the same time because of the increased mobility and efficiency provided by modern technology.
- Family size, solidarity of families, and stage of family development are critical factors in determining whether outside employment and education opportunities can be exploited.
- Adults with the most "outside" experience in education and or employment have the highest interest and output in the subsistence economy.
- Boundaries of western Alaska communities now extend to urban Alaska cities and the contiguous United States. As a result, migrants from the village remain connected to their communities through sentiment, kinship, and the exchange of news, goods, and money. The flow of goods generally favors the village as long-time city residents contribute to the village economy.
- Demographics and stage of family development influence the patterns of benefits from outside employment and education. Families with very young children and older community members are less likely to be able to take advantage of employment or educational opportunities outside of the village. These people need to be served by development projects that take place within the village.
- Young men and women are in a precarious position, because the traditional way of life can no longer proceed without cash.

This paradox is summarized in the NRC report:

Many of the skills that traditionally equipped people for an honorable and satisfying existence—such as, for men, knowledge of nature, hunting skills, dog sledding, kayaking, whaling—have been rendered technologically obsolete and lost to the younger generation. Unless young people can acquire a monetary stake to subsidize their customary productive activities with the technologies now required, they are in danger of becoming a lost generation. The situation is all the more critical because of the role of autonomy in traditional cultures, that is, on the ability to provide for oneself and family, and beyond that to achieve

community standing by supplying other, especially elders and poorer people, with share from successful subsistence endeavors.

Chapter 3: Overview of the Community Development Quota Program

Chapter 3 discusses the origin, the management structure, eligible CDQ communities, and descriptions of the CDQ groups, allocation of quota, and the phases of CDQ development. While discussions about a CDQ program date back to the mid eighties such a program was not proposed until 1990 Congressional hearings on reauthorization of the Magnuson Fishery Conservation and Management Act.

At the inception of the program, 55 communities were deemed eligible based on the following criteria:

- Located within 50 miles of the Bering Sea coast from the Bering Strait to the westernmost Aleutian island or located on islands in the Bering Sea.
- Certified as villages that meet the requirements of the Alaska Native Claims Settlement Act.
- Residents must conduct half of their current commercial or subsistence fishing effort in the waters of the BSAI.
- Communities must not have developed previously capability sufficient to support substantial fisheries, unless the community can show that CDQ benefits would be the only way to realize a return on previous benefits (Unalaska was excluded under this provision).

Akutan was added to the list of eligible communities in 1996 when it demonstrated that the local community was not deriving significant benefits from the processing plant located in Akutan.

There has been some debate about the intended beneficiaries of the CDQ program—whether the program is intended primarily for the Native Alaska residents of the eligible communities or whether the governance structure needs to be modified to take into account non-Native participation.

Chapter 4: Evaluation of the Performance of the Community Development Quota Program

The Committee's Evaluation Process

Evaluating the performance of a program such as the CDQ program requires identification of standard criteria by which to measure progress. Progress can be evaluated by measuring changes over time in such indicators as unemployment, per capita income, capital investments, infrastructure, and educational benefits. Other criteria such as changes in attitudes are more difficult to quantify and measure but are important in evaluating the performance of the CDQ program. At the time of the NRC evaluation, the program had not been in effect long enough to assess long term trends.

The State of Alaska and the NMFS have relied on quantifiable economic and performance-based criteria such as the number of people employed by CDQ activities and the success or failure in managing the previous Community Development Plan.

The NRC committee found data that details the benefits of the CDQ program to CDQ communities difficult to obtain. Several reasons were identified including the newness of the program and the limited data available, and because of a State of Alaska law that allows certain financial and catch data to remain confidential. While keeping the State of Alaska and NMFS criteria in mind, the NRC focused on four broad criteria as they were charged by the Magnuson-Stevens Act of 1996.

- The extent to which such programs have met the objective of providing communities with the means to develop ongoing commercial fishing activities.
- The manner and extent to which such programs have resulted in the communities and residents receiving employment opportunities in commercial fishing and processing; and obtaining the capital necessary to invest in commercial fishing, fish processing, and commercial fishing support projects (including infrastructure to support commercial fishing.
- The social and economic conditions in the participating communities and the extent to which alternative private sector employment opportunities exist.
- The economic impacts on participants in the affected fisheries, taking into account the condition of the fishery resource, the market, and other relevant factors.

As the NRC committee became more familiar with the program, new factors were identified and considered, including the pattern of the distribution of benefits, awareness and access of the program to residents of CDQ communities, and the impact on people in terms of whether it increased opportunities and hope and improved self determination.

Community Development Strategies

The CDQ groups have taken varying approaches to setting goals, harvesting quota, and allocating returns generated by their investments. Significant differences in approach are to be expected given the diversity in resources, history, and culture of the various CDQ communities. All six groups viewed creation of jobs as an important goal and stressed employment of local residents on the catcher-processor vessels and in shoreside processing plants. All six groups have incorporated some kind of education and training component for residents into their programs. One benefit of the program is that the periodic nature of employment in the fishing industry preserves options for local residents to continue elements of their subsistence lifestyles.

The committee recommends that to accomplish long-term goals, CDQ groups need a set and dependable program and length and the certainty that that brings to management and oversight. CDQ decision makers would be able to develop sound business plans and the pressure would reduce the perceived need to seek only short-term investment results. To some extent, the early development plans were shaped by the uncertainty about the duration of the CDQ program. If the existence of the CDQ program is assured for a reasonable length of time, say 10 years, there can be a balance between certainty and flexibility. Time scales can vary with the nature of the change—minor changes can be enacted over a short period of time, while major changes must be announced well in advance so that new approaches are phased in over perhaps a five-year time span.

Detailed reviews of the CDQ program should take place at regular intervals. The rules and procedures should be adapted as necessary. Reviews should assess what each group has accomplished including the kinds and the extent of the benefits provided to the community, and how all funds were spent. However, evaluation should not be based strictly on financial evaluation criteria. Qualitative information is also an important component of the evaluation process.

The NRC found that current administrative expenses of the CDQ groups were in the 20 percent range, but the committee felt that the percentage should be expected to decrease as the groups matured over time.

As would be expected, it was found that reallocating quota share among the six CDQ groups is controversial. The extensive and variable criteria used by the State of Alaska and federal agencies in allocating the quota among the groups results in inconsistent decision making that is difficult for the

CDQ groups to interpret and to evaluate. State and federal criteria based on performance and plans should be less complicated and more consistent in terms of the criteria presented and their ranking. The committee recommends that the criteria be used for two purposes: to allocate quotas equitably and to encourage good management. Confusion could be clarified by separating these two purposes into separate allocations of quota—one to address issues related to equity and a second quota to address issues related to performance.

The committee also acknowledges that the initial requirement that all profits be reinvested in fishery related activities was valid because the initial objective of the CDQ program was to help participating communities establish a viable presence in a capital-intensive industry. However, over time more flexibility in reinvestment activities should be provided by allowing some portion of profits to be reinvested in non-fisheries related community development activities.

As currently structured, the CDQ program is about economic development, but economic sustainability is dependent upon long-term assurance of a sound resource base—the fisheries. To be successful for the long term, CDQ groups need to place more emphasis on environmental stewardship and the long-term health of the Bering Sea ecosystem.

The NRC committee describes the CDQ program as an “innovative attempt” to accomplish community development in rural coastal Alaska communities—a program that appears to be succeeding. The NRC report acknowledged that the program is not without problems, but most of these appear to be related to the newness of the program and the lack of experience of participants. While not all CDQ groups have been equally successful, the program exhibits significant examples of real benefits to the communities. The program generates resources that give local communities greater control of their futures.

One of the greatest weaknesses of the program is lack of open, consistent communication between the CDQ groups and the communities they represent. A mechanism for providing input from the communities to the CDQ groups needs to be added to the governance structure. Lack of outreach by the State of Alaska to the communities to help ensure that communities and their residents are aware of the program and how to participate was identified as a problem. According to the committee, to be effective the CDQ groups need a well-established mechanism that fosters exchange of information between the groups’ decision makers, the communities, and the state and federal agencies involved in oversight of the program.

Chapter 5: Broader Issues and Considerations

Review of the CDQ program offers insight into the interaction of state and local managers, the use of quota-based management, nature of communities in CDQ type programs, the use of the corporate model in CDQ type programs, the role of oversight in community based development, and implications of the inclusion and exclusion that result from various types of harvest privileges.

Chapter 6: Communities and Fisheries of the Western Pacific

Chapter 6 discusses the differences in the setting, the communities, and the fisheries of the western Pacific region and the North Pacific region and the lessons that can be learned from the Alaska experience with the CDQ program.

The NRC report summarizes one of their conclusions:

If the CDQ program is to have serious developmental consequences, it will have to open the possibilities, especially for young people, to make a go of it in their local communities.

However, at the same time, there is something more to the value of autonomy that engages the villages and regional organizations as such, the structures by which the CDQ program is constituted. More than any previous welfare or development initiative, more even than the native corporations, the CDQ program seems to offer a viable way for local people to gain control over the means by which they are articulated to the larger economy and society.

AdTech Consulting Group, Inc., June 21, 1999. *Implementation of a Social and Economic Database for the Western Alaska Community Development Quota Program.* Prepared for Bering Sea Fishermen's Association. NOAA Grant #NA86FM0414.

The Alaska Department of Community and Regional Affairs proposed creation of a social and economic database (CDQ-SED) for the Western Alaska Community Development Quota Program. NOAA provided funding for development of the database and the BSFA functioned as project manager and grant administrator.

During preliminary work, it was discovered that the anticipated users of the database did not have a shared understanding of the functions and uses of the potential database. ADTech decided that clarification of these issues among potential users was a necessary precursor to development and implementation of the database. To this end, AdTech Consulting along with BSFA conducted 34 interviews (in person or by telephone) with representatives from 10 organizations that had daily interactions with the CDQ program and 7 supporting organizations. One of the goals of the interviews was to develop a set of business objectives and a work plan for implementation of the CDQ-SED based on a consensus among the organizations involved in the CDQ program. Business objectives were defined as the ways interviewees thought the CDQ-SED could be used to further the needs of the CDQ groups.

Six clearly defined business objectives emerged from the interviews. However, AdTech recommended the near-term implementation of only one business objective. AdTech determined that the objective related to measuring the impacts of the CDQ program on CDQ communities was the business objective that provided the best balance between benefit and risk and therefore focused their implementation efforts on this task.

Implementation of the other objectives was delayed while acknowledging that some minor portions of these other objectives might need to be incorporated into implementation of Objective 1 to help users keep the analytical data on social and economic conditions in perspective. These six objectives are described below.

Business Objectives

1. Provide objective data to quantify and qualify the impacts of the CDQ program on western Alaska communities.

According to the report, the majority of those interviewed verified the need for data that quantifies the contributions of the CDQ program to western Alaska. Three reasons for this need emerged from the interviews.

- The long-term continuance of the CDQ program may depend on the ability to articulate the program's successes.
- An informed public, including residents of the CDQ areas, is needed to help maintain the support of lawmakers and the support and trust of community residents.

- Information generated by the CDQ program could be used to help create similar kinds of programs for other natural resources throughout the State of Alaska.

2. Standardize the data reported to the state in quarterly reports.

The goal of standardization arises from the shared view of state agencies and CDQ groups that the quarterly reporting and allocation process needs to be improved. However, opinions varied on what should be done to improve the process. On one hand, most interviewees agreed that having standardized data available within the quarterly reports would allow the evaluation team's allocation process to be based more on measurable criteria and less on intangible factors. On the other hand, most interviewees believed that the allocation process should not solely be based on measurable data. Many felt that the allocation process should be based more on performance criteria. Some CDQ groups were concerned with the potential increase in costs of producing automated quarterly reports.

Implementation of this objective would require significant participation of the CDQ groups, and support by the CDQ groups for this objective was divided.

3. Identify and understand community desires and goals so they can be documented in community plans.

Each CDQ group must submit a community development plan proposal to the State of Alaska. Along with a request for a percentage of the CDQ reserve, the plan includes goals and objectives about the development projects to be undertaken. The application process could be aided by collection of community planning data to document community goals and desires, to assess the community's willingness to both embrace and support CDQ projects, and to evaluate whether the community has the necessary physical infrastructure, business alliances, leadership, and training programs to adequately sustain proposed projects. Anecdotal data about a community's opinion on community health and well being could be included. This anecdotal data would probably provide a more direct measurement of a community's self-assessment than statistical data, particularly if such information were collected over time.

To implement this objective, AdTech made the following assumptions.

- To measure impacts, data needs to be collected for CDQ and neighboring non-CDQ communities.
- Historical data needs to be collected starting with data from 2 to 5 years before creation of the CDQ program.
- Data should come from non-CDQ sources to guard against the appearance of nonobjectivity and to provide consistent data collection techniques.
- Data sources need to be available long-term.
- Much of the required data resides within various state and federal agencies.
- Data sources will be difficult to integrate because each data set was designed independently and for varying purposes. This step probably represents a sizeable portion of overall effort.
- An alliance needs to be formed with the state to assume long term access to required data.
- Minimal involvement of CDQ groups in the data collection process.
- Some community level input will be required.

Implementation of this objective was delayed because of the high costs anticipated with collection of primary data from each CDQ community.

4. Create a CDQ-wide human resource database that contains skill, training, and employment data so that human resources can be managed regionally.

Each CDQ group collects and maintains proprietary employment data. During the interview process, several CDQ groups expressed interest in a human resource database that would cross CDQ group boundaries. Such a database could include an index of consultants, bankers, lawyers, and others who have worked for CDQ groups, a skills inventory for past, present, and prospective CDQ employees, a cross CDQ bulletin board posting jobs, training and scholarship opportunities, along with tracking the employment history of CDQ employees. Admittedly, some of this information would be subject to access restrictions to protect the privacy of individuals. Only summary data would be made available to the public. Some additional costs for CDQ groups may be associated with the development and maintenance of such a database.

Security issues precluded implementation of this business objective. According to AdTech, Gold Belt, the Juneau based Native Corporation, reportedly has a database that may address this objective.

5. Measure impact of CDQ and non-CDQ projects in western Alaska to determine the factors that contribute to failures and successes.

During the interviews, several CDQ groups and agencies expressed interest in maintaining post-implementation histories of CDQ projects to assist in the identification of characteristics that contribute to each project's success or failure. However, other CDQ groups felt that the inclusion of such information could be used to their detriment by other CDQ groups and the State of Alaska. Information from such a database would be useful in designing new projects and in promoting projects within the CDQ communities. An important aspect of this component of the database would be identifying and agreeing on measures of success which have not been clearly articulated. This step would have to be completed by the CDQ groups and the State of Alaska.

As with objective 2, implementation of this objective would require significant participation of the CDQ groups, and support by the CDQ groups for this objective was divided. In addition, no consensus existed among the groups on what constituted a successful project and what data should be reported to the State of Alaska in the quarterly reports.

6. Reduce the costs of research.

One of the goals of the CDQ-SED is to reduce the costs of studies undertaken by the CDQ groups, the state and federal agencies, universities, and any private organizations interested in assessing CDQ impacts and/or projects. The CDQ-SED could achieve this goal by collecting data from the available sources and normalizing the data for integration into the database and then making this information available from a single source.

AdTech concluded that implementation of Objective 6 is not a separate implementation project because the goal of this objective will be accomplished as the other business objectives are implemented.

The rest of this report deals with the implementation strategy for the CDQ-SED including data management, data delivery, and the development cycle, and concludes with a discussion of what is

next. The primary access to the CDQ-SED is planned to be through an Internet web site incorporated with the existing BSFA multi-species CDQ web site. It is envisioned that the web site would be continually enhanced and expanded, bringing together all available data on the social and economic health of communities in western Alaska. Links to data on other pertinent web sites would be provided. Implementation is to be staged allowing access to information as soon as it becomes available.

AdTech acknowledges that in most cases, data would have to be copied into the CDQ-SED web service before distribution. A diagram is provided for the one-time processes that would go into development of the database and web site, along with a diagram of the cyclic processes required to maintain and update the database.

Appendix A of this report contains several useful diagrams outlining data sources, including information available from the State of Alaska, University of Alaska, the U.S. Government, Fisheries Data from the State of Alaska and the U.S. Government, CDQ groups, CDQ communities, and sources classified as other.

Northern Economics, Inc. and North Pacific Fisheries Management Council. January 2000. *Analysis of AFA Processor Sideboard Limits for Groundfish and Excessive Share Caps for BSAI Pollock Processing.*

The AFA erected significant barriers to entry into the pollock processing and harvesting markets. This document provides an assessment of the effects of imposing limits on the amount of all groundfish in the GOA and non-pollock groundfish in the BSAI that processors participating in cooperatives can process under the AFA. The document also examines the effects of an excessive share cap on the amount of BSAI pollock any given entity comprising AFA facilities can process. Ten specific options for processing limits are developed and are assessed for efficacy in fulfilling the mandates of the AFA.

This document is divided into five sections, an introduction, a discussion of environmental considerations, an assessment of AFA processing limits, an assessment of an excessive share cap on the processing of pollock in the BSAI, and a summary section that addresses other applicable laws.

The intertwined ownership of groundship processors is documented in this analysis including the ownership interests of CDQ groups in pollock processing. One of the conclusions of the analysis is that imposing processing limits on AFA entities will have some unintended consequences. For example, the CDQ group APICDA purchased ownership interests in three freezer longliners, the *Prowler*, the *Bering Prowler*, and the *Ocean Prowler*. The other partners of these vessels do not appear to be associated in any significant way with any AFA pollock processors. *Starbounds'* ability to participate in a pollock cooperative is not like to generate any additional profits for the partners. However, because of APICDA's ownership in the *Starbound*, these three freezer longliners would be limited under the proposed AFA processing limit using a 10 percent ownership standard. This potential problem could be mitigated with a CDQ exemption.

If a BSAI pollock processing excessive share cap includes CDQ processing, the incentives to form partnerships with CDQ organizations may be reduced. This reduction could translate into fewer benefits coming to CDQ organizations. If CDQ processing is included under the BSAI pollock processing excess share cap, it will reduce the importance of CDQ pollock to AFA entities and will probably have a negative impact on the willingness of AFA entities to form partnerships with CDQ organizations. If CDQ processing is not included under the BSAI pollock processing excessive share cap, incentives to partner with CDQ organizations will remain high.

National Oceanic and Atmospheric Administration, National Marine Fisheries Service. Alaska Region. January 2001. *Alaska Groundfish Fisheries DRAFT Programmatic Supplemental Environmental Impact Statement.*

This supplemental environmental impact statement (draft SEIS) provides a large-scale analysis of the BSAI and GOA groundfish fisheries management plans. The draft SEIS serves multiple purposes:

- Stands as a planning and reference document for the current management regime.
- Examines the BSAI Groundfish and the GOA Fishery Management Plans at a programmatic level.
- Provides an environmental baseline for the area.
- Explains and explores the effects of six alternative policy frameworks on the physical, biological, and human environments.

One of the issues considered in the draft report with direct applicability to the CDQ program is the issue of providing economic stability for fishing communities. Six geographic areas with ties to the Alaska groundfish fisheries are identified and examined. Four of the defined regions are in Alaska: the Alaska Peninsula and Aleutian Islands Region, the Kodiak Island Region, the Southcentral Alaska Region, and the Southeast Alaska Region. The regions are defined based on logical socioeconomic and geographic units and the type of engagement in or dependence on the groundfish fisheries. The report also considers other affected groups such as the CDQ groups. Socioeconomic profiles of the regions and the CDQ group are presented.

Other important issues considered in the draft SEIS include:

- Effects of the groundfish fisheries on marine mammals and seabirds.
- Effects of fishing gear on benthic habitat.
- Excess fishing and processing capacity.
- Effects of harvesting fishing on the North Pacific marine ecosystem.
- Maintenance of sustainable fisheries.

The potential alternatives discussed in the draft SEIS are to be considered in reference to four broad goals:

- Provide sound conservation of living marine resources.
- Provide socially and economically viable fisheries.
- Prevent human-caused threats to protected species.
- Maintain a healthy living marine resource habitat.

North Pacific Fishery Management Council and National Marine Fisheries Service, Alaska Region. November 15, 2001. *Regulatory Impact Review/Initial Regulatory Flexibility Analysis for Proposed Amendment 71 to the Fishery Management Plan for Bering Sea/Aleutian Islands Groundfish.*

The CDQ program was institutionalized as part of the Fishery Management Plan for the Groundfish Fisheries of the BSAI under the Sustainable Fisheries Act of 1996. Proposed Amendment 71 would implement several policy changes regarding the administration and oversight of the CDQ program by

NMFS and the State of Alaska. It would also result in changes to the allocation process. Since its inception in 1992, the CDQ program has expanded several times to include allocations of pollock, halibut, sablefish, crab, all of the remaining groundfish species, and the prohibited species.

In 2000, the six CDQ groups had total revenues of approximately \$63 million.² The groups had accumulated assets worth approximately \$187 million. As the CDQ groups have matured, their participation has increased in the Council process and other regional forums and some of the CDQ groups have expressed a desire for increased autonomy and reduced government oversight. The following needs have been identified:

- Clearly define and limit government oversight.
- Improve the objective and consistency of the CDQ allocation process.
- Consider allowing expenditures of CDQ revenues on non-fisheries related projects.

This document presents a history of the roles of the state and federal government in setting up the original structure of the CDQ program and in administration and oversight of the program. The document also describes several actions that have occurred leading to the decision to consider “fine-tuning” the program. Included are:

- The National Research Council’s comprehensive report on the performance and effectiveness of the program,
- House Resolution 553 proposed by Congressman Don Young of Alaska in February 2001 which would make some significant policy and fisheries management changes in the CDQ program increasing the autonomy of the groups.
- Current legal challenges in federal district court to the CDQ allocation process
- The priorities and options identified by the Council CDQ Policy Committee.

Since the CDQ groups will be affected by the proposed amendment, information is provided on each of the groups, and the eligible communities. The Council hired KPMG, LLP to assist in compiling data on the CDQ groups’ financial status and for the analysis of the organizational and legal structure of the CDQ groups. Combined statements of activities and financial positions are provided including total assets, liabilities, restricted net assets, designated net assets, and return on investments. Diagrams are provided for each group’s organizational structure.

The Council formed a CDQ Policy Committee to provide policy recommendations to the Council on potential changes to regulations governing the role of NMFS, the State Allocation, the CDQ allocation, process, and the administration of the CDQ program. Nine issues with various alternatives and options were identified by the CDQ Policy Committee. Information was provided on the economic and socioeconomic impacts of all of the alternatives including the nature of the impacts and a discussion of the tradeoffs between benefits and costs. While the nature of the proposed action and many of the alternatives lend themselves to qualitative analysis, the economic impacts are quantified where possible.

What follows is a list of the identified issues, the alternatives, and the committee’s recommendation. Appendix A of the document includes the committee’s discussions and recommendations, the majority/minority opinions, the motion, and final votes. If any or all of these recommendations are approved by the NPFMC and the Secretary of the Department of Commerce, there will be significant changes to the operation of the CDQ program. Initial review of the PDQ policy amendment package

² Since publication of this report, 2000 financial reports of CDQ groups have been audited and updated and numbers may have changed.

by the NPFMC is scheduled to take place during the Council's December 5-10, 2001, meeting in Anchorage.

ISSUE 1. Define the role of NMFS, the State of Alaska, and the Council in making CDQ allocations.

- ⇒ **Alternative 1.** Status quo: Do not change the CDQ administrative regulations.
- ⇒ **Alternative 2.** NMFS would make CDQ allocations through an administrative process that may continue to require the State to submit CDQ allocation recommendations.
- ⇒ **Alternative 3.** The State of Alaska would be responsible for CDQ allocations.
- ⇒ **Alternative 4.** The Council would be responsible for developing CDQ allocation recommendations, and NMFS would implement the allocations through proposed and final rulemaking.

Committee's Recommendation: The committee voted not to take action on governance.

ISSUE 2: Periodic or Long-Term CDQ Allocations

- ⇒ **Alternative 1.** No Action
- ⇒ **Alternative 2.** Establish a fixed allocation cycle in regulation
 - Option 1: 2-year allocation cycle
 - Option 2: 3-year allocation cycle
 - Option 3: 5-year allocation cycle

Suboption 1: Establish an "escape clause" which would allow the State to recommend reallocation of CDQ mid-cycle under extraordinary circumstances. The Council and NMFS would have to approve the State's recommended reallocation.

- ⇒ **Alternative 3.** Make long-term allocations to the eligible CDQ communities

Committee Recommendation: Alternative 2, Option 2.

ISSUE 3. Define the Role of Government in Oversight of the CDQ Program

- ⇒ **Alternative 1.** No Action
- ⇒ **Alternative 2.** Amend the BSAI FMP to specifically identify elements of the government's responsibility for administration and oversight of the economic development of the CDQ program.

Committee's Recommendation: Alternative 2.

Issue 4: CDQ Allocation Process—Type of Quotas

- ⇒ **Alternative 1.** No Action. CDQ and prohibited species quota are specified by species, area, and gear type (sablefish and halibut). Each CDQ group is eligible to receive a percentage allocation of each CDQ or PSQ reserve as recommended by the State of Alaska and approved by the Secretary of Commerce. The State decides how to balance demographic or socioeconomic factors with performance criteria.
- ⇒ **Alternative 2.** Establish a separate foundation quota and performance quota. Alternative 2 has several options.

Committee's Recommendation: Alternative 1.

ISSUE 5. CDQ Allocation Process—The Evaluation Criteria

- ⇒ **Alternative 1.** Status quo.
- ⇒ **Alternative 2.** Revise the CDQ evaluation criteria and publish them in NMFS regulations.
- ⇒ **Alternative 3.** Development CDQ evaluation criteria through the process proposed in H.R. 553.

Committee’s Recommendation: Alternative 2.

ISSUE 6. Public Comment on Allocation Recommendations—Appeals Process

- ⇒ **Alternative 1.** No Action
- ⇒ **Alternative 2.** Develop a comment period for the State’s allocation recommendations.
- ⇒ **Alternative 3.** Develop and appeals process for the State’s allocation recommendations. Two options are given.

Committee’s Recommendation: Alternative 2.

ISSUE 7. Extent of Government Oversight (Definition of a CDQ Project)

- ⇒ **Alternative 1.** No Action.
- ⇒ **Alternative 2.** Implement revisions to the CDQ program administrative regulations based on the State of Alaska’s proposal.
- ⇒ **Alternative 3.** Implement some of the revision to the CDQ program administrative regulations proposed by the State of Alaska, but clarify that oversight of the CDQ program by the State of Alaska and NMFS does not extend to the activities of businesses that the CDQ groups own.
- ⇒ **Alternative 4.** (From H.R. 553) Oversight extends only to activities of the CDQ group, not to businesses owned by the CDQ group.

Committee’s Recommendation: Alternative 2.

ISSUE 8. Allowable Investments by CDQ Groups—Fisheries-Related Projects

- ⇒ **Alternative 1.** No Action.
- ⇒ **Alternative 2.** Continue to require that the CDQ groups invest only in “fisheries’ related” projects, but clarify NMFS regulations to add specific prohibition against CDQ groups investing in non-fisheries related projects, and clarify that this prohibition does not apply to certain categories of expenditures or investments such as investment accounts or scholarships.
- ⇒ **Alternative 3.** Revise NMFS regulations to allow investments in non-fisheries related projects. Three options are given.
- ⇒ **Alternative 4.** No restrictions on what the CDQ groups may spend money on or what type of projects they may invest in.

Committee’s Recommendation: Alternative 3.

ISSUE 9. Other CDQ administrative Issues

- ⇒ **Alternative 1.** No Action.
- ⇒ **Alternative 2.** Develop proposed regulatory amendments to simplify and streamline record keeping and reporting requirements.

The committee also concluded that the Council kept the committee intact for at least another year to address issues on an as needed basis.