

**Bristol Bay Salmon Drift Gillnet Two-Permit Operations:  
Preliminary Estimates from 2009 District Registration Data**

**CFEC Report No. 09-6N**

Prepared by:

Kurt Schelle  
Nancy Free-Sloan  
Craig Farrington

## **Alaska Department of Fish and Game and the Office of Equal Opportunity (OEO) Statement**

The Alaska Department of Fish and Game (ADF&G) administers all programs and activities free from discrimination based on race, color, national origin, age, sex, religion, marital status, pregnancy, parenthood, or disability. The department administers all programs and activities in compliance with Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act of 1990, the Age Discrimination Act of 1975, and Title IX of the Education Amendments of 1972.

If you believe you have been discriminated against in any program, activity, or facility please write:

- ADF&G ADA Coordinator, P.O. Box 115526, Juneau, AK 99811-5526
- U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, MS 2042, Arlington, VA 22203
- Office of Equal Opportunity, U.S. Department of the Interior, 1849 C Street NW MS 5230, Washington DC 20240.

The department's ADA Coordinator can be reached via phone at the following numbers:

- (VOICE) 907-465-6077
- (Statewide Telecommunication Device for the Deaf) 1-800-478-3648
- (Juneau TDD) 907-465-3646
- (FAX) 907-465-6078

For information on alternative formats and questions on this publication, please contact the following:

Commercial Fisheries Entry Commission (CFEC)  
Research Section  
8800 Glacier Highway, Suite 109  
P.O. Box 110302  
Juneau, Alaska 99811-0302  
(907) 789-6160 phone  
(907) 789-6170 fax  
[Dfg.cfec.research@alaska.gov](mailto:Dfg.cfec.research@alaska.gov)

## Table of Contents

<b>1.0</b>	<b>Introduction</b>	<b>1</b>
1.1	Outline of the report	2
1.2	Resident-Type Definitions Used in the Report	3
<b>2.0</b>	<b>Background on Data and Assumptions</b>	<b>4</b>
<b>3.0</b>	<b>Estimates of One-Permit and Two-Permit Operations for the 2009 Fishery – All Districts Combined.</b>	<b>7</b>
3.1a.	Resident-Type of Permit Holders – All Districts Combined.	7
3.1b.	Resident-Type Combinations of Permit Holders in Two-Permit Operations in 2009 – All Districts Combined.	8
3.1c.	Number of Districts Used by Vessels Registered for the Bristol Bay Drift Gillnet Fishery during 2009 - All Districts Combined.	9
<b>4.0</b>	<b>Estimates of One and Two-Permit Operations by Bristol Bay District</b>	<b>10</b>
4.1	Togiak District	11
4.1a.	Resident-Types of Permit Holders in the Togiak District.	11
4.1b.	Resident-Type Combinations of Permit Holders in Two-Permit Operations in the Togiak District.	12
4.1c.	Number of Districts Used by Vessels Registered for the Togiak District in 2009.	12
4.2	Nushagak District	13
4.2a.	Resident-Types of Permit Holders in the Nushagak District	13
4.2b.	Resident-Type Combinations of Permit Holders in Two-Permit Operations in the Nushagak District	14
4.2c.	Number of Districts Used by Vessels Registered for the Nushagak District	15
4.3	Naknek-Kvichak District	15
4.3a.	Resident-Type of Permit Holders in the Naknek-Kvichak District.	16
4.3b.	Resident-Type Combinations of Permit Holders in Two-Permit Operations in the Naknek-Kvichak District.	16
4.3c.	Number of Districts Used by Vessels Registered for Naknek-Kvichak.	17
4.4	Egegik District	18
4.4a.	Resident-Types of Permit Holders Registered to Vessels in the Egegik District.	18
4.4b.	Resident-Type Combinations of Permit Holders in Two-Permit Operations in the Egegik District.	19
4.4c.	Number of Districts Used by Vessels Registered for the Egegik District.	20
4.5	Ugashik District	21
4.5a.	Resident-Types of Permit Holders in the Ugashik District.	21
4.5b.	Resident-Type Combinations of Permit Holders in Two-Permit Operations in the Ugashik District.	22
4.5c.	Number of Districts Used by Vessels Registered for Ugashik	23
<b>5.0</b>	<b>Summary of Results</b>	<b>25</b>

## **Abstract**

In 2003, the Alaska Board of Fisheries passed a regulation (5 AAC 06.333) for the Bristol Bay salmon drift gillnet fishery, that allows two Commercial Fisheries Entry Commission (CFEC) permit holders who opt to fish together on a single vessel to use 200 fathoms of gear (an additional 50 fathoms) under certain conditions. This report uses Alaska Department of Fish and Game (ADF&G) district registration data coupled with CFEC permit data to estimate the use of two-permit operations in the Bristol Bay salmon drift gillnet fishery during the 2009 season. The report examines the number and percent of vessels and the number and percent of CFEC permit holders involved in one-permit and two-permit operations. Data are provided for the fishery as a whole and for individual districts. The report also examines the use of one-permit and two-permit operations by resident-type.

## 1.0 Introduction

This report examines 2009 district registration data for the Bristol Bay salmon drift gillnet fishery (S03T<sup>1</sup>) and provides estimates of the numbers of Commercial Fisheries Entry Commission (CFEC) permit holders taking advantage of an Alaska Board of Fisheries (Board) “permit-stacking” regulation.<sup>2</sup> Estimates are provided for the fishery as a whole, by fishing district, by resident-type of the permit holder, and by fishing district and resident-type.

Economic returns in Alaska’s salmon fisheries declined near the beginning of the 21st century. One reason for the decline was a decrease in ex-vessel prices due to growing production and competition from high quality farmed salmon. This was particularly true of the Bristol Bay salmon fisheries where the sockeye harvest faced strong price competition from farmed salmon in Japan.

As the total ex-vessel value of the Bristol Bay fishery declined, so did permit values and participation rates. From 1984 through 2000, over 1,800 permits were fished each year in the Bristol Bay salmon drift gillnet fishery. In 2002, only 1,184 permits were fished in the fishery. The market value of an S03T permit peaked in 1989 at almost one quarter of a million dollars. The market value of an S03T permit declined during the 1990s and reached an estimated low of \$19,700 in 2002.<sup>3</sup>

The decline in the economic value of the salmon fisheries led Alaska’s legislature to study options for “restructuring” to make the salmon fisheries more profitable. The legislature asked the Board to examine restructuring options. In 2003, the Board passed a regulation (5 AAC 06.333) for the S03T fishery that allows two CFEC permit holders who opt to fish together on a single vessel to use 200 fathoms of gear (an additional 50 fathoms) under certain conditions. This “permit-stacking” regulation first went into effect for the 2004 season.

The objective of the regulation was to allow two permit holders to team up on a single vessel to reduce their combined harvesting costs and to create a more profitable operation. To the extent that both permit holders would have fished anyway, the number of fishing vessels, the total amount of gear in the fishery, congestion, and harvesting costs would be reduced. To the extent that some permit holders who fish in a two-permit operation otherwise would not have fished, the total amount of gear in the fishery would increase. However, more permit holders would be able to derive benefits from the fishery.

---

<sup>1</sup> “S03T” is the permit fishery code used for the Bristol Bay salmon drift gillnet fishery on Commercial Fisheries Entry Commission permits. “S” is the code for salmon, “03” is the code for drift gillnet gear, and “T” is the code for the Bristol Bay salmon administrative area.

<sup>2</sup> 5 AAC 06.333.

<sup>3</sup> These figures are in “nominal dollars” which are the dollars reported in each year’s data. The changes in permit values are more pronounced when the numbers are adjusted for inflation to create “real dollar” (a.k.a. “constant –value dollar”) estimates. See tables 3.1a and 3.1b in the *Bristol Bay Salmon Drift Gillnet Fishery Optimum Number Report*.

While ex-vessel prices and conditions in the S03T fishery have improved considerably since 2002, there are still many unused permits in the fishery. For the 2009/2010 Board of Fisheries meeting on Bristol Bay finfish, there are several proposals ranging from eliminating the current permit stacking regulation for the fishery to expanding the regulation to allow individuals who hold two permits for the fishery to fish an additional amount of gear also.

Currently, the regulation requires that two permit holders combine to form the two-permit operation to get the privilege of using the additional gear. Expanding the regulation to also allow a person who holds two permits to fish the additional amount of gear could serve as a catalyst for a further market-driven reduction in the number of fishing operations without the need for a buyback program.

While the topic of “permit stacking” has been a matter of considerable interest, there has not been a definitive source of data on how widely two-permit operations are used in the Bristol Bay salmon drift gillnet fishery. Alaska Department of Fish and Game (ADF&G) fish ticket data do not necessarily identify all two-permit operations since the harvest might be delivered on only one person’s permit.<sup>4</sup>

Bristol Bay district registration data provide an alternative source of data for making estimates. The registration data also have some problems which will be discussed in this report. However, the district registration system and data were revamped and improved for the 2009 fishing season. This report uses these 2009 registration data to estimate the extent to which two-permit operations were utilized during the season.

## **1.1 Outline of the report**

The remainder of the report is divided into the following four sections:

*Section 2* briefly describes the 2009 district registration data and explains issues and assumptions that may impact the estimates in this report.

*Section 3* provides estimates on the number of one-permit and two-permit operations for the fishery as a whole. Breakouts of the estimates are provided by the resident-type of the person holding the permit at the time of the district registration. In addition, resident-type combinations of persons involved in two-permit operations are examined.

*Section 4* provides estimates on the number of one-permit and two-permit operations in each individual district. The five Bristol Bay registration districts are Togiak, Nushagak,

---

<sup>4</sup> There are other problems with using the ADF&G fish ticket data. For example, the vessel number on the permit card is sometimes not the vessel that the person uses in the fishery. By regulation, a permit holder may register a different vessel during the Bristol Bay district registration process (5AAC 06.370(h)). When this occurs, the vessel number on the permit sometimes is the one recorded in the fish ticket data rather than the vessel number actually registered and used by the permit holder.

Naknek-Kvichak, Egegik, and Ugashik. Breakouts of the estimates within each district are provided by the resident-type of the person holding the permit at the time of the registration. Resident-type combinations of persons involved in two-permit operations are also examined.

In addition, the vessels registered for each district are examined to see the total number of Bristol Bay districts they used during 2009. Separate counts are provided for one-permit operations and two-permit operations.

*Section 5* provides a brief summary of the results.

## **1.2 Resident-Type Definitions Used in the Report**

The resident-types used in this report are the same ones used in CFEC's annual report on the distribution of permit holdings.<sup>5</sup> Alaska communities are classified as "rural" or "urban" based upon 2000 census data. Alaska communities are also classified as "local" or "non-local" to the Bristol Bay salmon fishery. Since there are no urban communities that are "local" to the Bristol Bay fishery, for this report, permit holders are classified into the following four resident-types based on the location of the community where they reside:

**ARL:** *Alaska* resident of a *rural* community that is *local* to the Bristol Bay fishery.

**ARN:** *Alaska* resident of a *rural* community that is *non-local* to the Bristol Bay fishery.

**AUN:** *Alaska* resident of an *urban* community that is *non-local* to the Bristol Bay fishery.

**NON:** *Nonresident* of Alaska.

---

<sup>5</sup> For a full description of these resident-type definitions, see Appendix A. of *Changes in the Distribution of Alaska's Commercial Fisheries Entry Permits, 1975-2008* (CFEC 09-4N). The following is a link to the report: [http://www.cfec.state.ak.us/RESEARCH/09\\_4N/ChapterAppA%2008.pdf](http://www.cfec.state.ak.us/RESEARCH/09_4N/ChapterAppA%2008.pdf)

This page intentionally left blank.



## 2.0 Background on Data and Assumptions

In 2009, a new computerized Bristol Bay district registration system and database were introduced. The new system provides a web-based application for permit holders and authorized agents to carry out district registration and transfer transactions over the internet, saving everyone time and labor costs. The 2009 data are now stored in a relational database in several tables.

This report relies on the 2009 ADF&G district registration data and CFEC permit data. While the 2009 district registration data represent an improvement over earlier years, there still are data issues. As a result, the data used for this report may be incomplete and may contain errors.

The following is a description of some of the data issues and the assumptions used to produce this report:

- a.) Two permit holders who register with their respective vessels for the same district can join together on one of their vessels and conduct a two-permit operation without the need for an additional transaction on the registration file. Thus when such an event occurs, there is no way to identify the switch to a two-permit operation from the computerized registration transactions. One Department of Fish and Game fishery manager suspects that, while such events occur, they are relatively infrequent.<sup>6</sup> To the extent that such events do occur, the number of two-permit operations will be underestimated in this report.
- b.) The district registration data have some transactions with no start date and other transactions where the stop date occurs before the start date. After reviewing these observations and discussing the transactions with the designer of the database, the authors concluded that such registration transactions were errors. Such transactions were eliminated from consideration in the report.
- c.) Registration transactions only have an exit date (a.k.a. stop date) if the permit holder transfers to another district. When there is no stop date it is not possible to determine when a permit holder's activity in a district ends. Thus, it is possible that a two-permit operation can become a one-permit operation if one person quits fishing before the other.

Similarly, there are cases where the registration dates for two persons registered to the same vessel overlap in time, but one of the permit holders has an earlier start date. In such cases, it is possible that the vessel started as a one-permit operation and then became a two-permit operation at a later date.

For purposes of this report, an operation was counted as a two-permit operation as long as the registration periods for the two permit holders on the vessel

---

<sup>6</sup> Information based on an 11/16/2009 conversation with ADF&G biologist Tim Sands.

overlapped in time. If the registration periods did not overlap in time, the vessel was assumed to be a one-permit operation.

- d). Sometimes, no additional district registration transaction occurs if a permit is emergency transferred in-season to another permit holder. This could impact data reports by resident-type if the emergency transferee of the entry permit is a different resident-type than the transferor. For purposes of this report, the authors used the resident-type of the original permit holder who had registered for the district if no additional transaction was available in the registration data to identify the transferee.
- e.) Some vessels may represent a two-permit operation in one district and a one-permit operation in another district at a different point in the season. For the fishery as a whole, these vessels are counted as two-permit operations.
- f.) District registration transactions are usually no longer required for a district after the 48 hour waiting period has been waived. Thus if some two-permit operations form after the peak of the season, they do not appear in the data and cannot be counted.

In summary, the data used in this report come from the 2009 ADF&G Bristol Bay district registration database with additional fields from CFEC data. The reader should be aware that there are some issues with the data. Because of these issues, the data provided in this report should be considered estimates, and viewed with caution.

### 3.0 Estimates of One-Permit and Two-Permit Operations in the 2009 Fishery – All Districts Combined

During the 2009 Bristol Bay salmon drift gillnet fishery, 2,470 district registration observations were recorded. These observations represented 1,610 distinct individuals, 1,608 distinct CFEC permits, and 1,331 distinct vessels. Two-permit operations occurred on an estimated 20.9% (278/1,331) of the vessels while one-permit operations occurred on an estimated 79.1% (1,053/1,331) of the vessels.

#### 3.1a. Resident-Type of Permit Holders – All Districts Combined

The 1,610 CFEC permit holders who registered for the Bristol Bay drift gillnet fishery at some time during the 2009 season were classified by resident-type and operation-type in Table 3.1a.<sup>7</sup> Approximately 65.3% (1,052/1,610) of these permit holders were determined to be in a one-permit operation, and 34.7% (558/1,610) were in a two-permit operation.

Table 3.1a. Resident-Types of S03T Permit Holders by Operation-Type in 2009.<sup>8</sup>

Resident Type	All Permit Holders		Permit Holders on One-Permit Operations		Permit Holders on Two-Permit Operations	
	Number	Pct.	Number	Pct.	Number	Pct.
ARL	294	18.3%	241	82.0%	53	18.0%
ARN	136	8.5%	93	68.4%	43	31.6%
AUN	233	14.5%	151	64.8%	82	35.2%
NON	947	58.8%	567	59.9%	380	40.1%
TOTAL	1,610	100.0%	1,052	65.3%	558	34.7%

Of the 1,610 distinct permit holders, nonresidents were the largest group representing 58.8% (947/1,610) of the distinct persons who registered at least once for the Bristol Bay salmon drift gillnet fishery. Persons from the local Bristol Bay area (ARLs) were the second largest group representing 18.3% (294/1,610) of the distinct persons who registered for the fishery. Permit holders from urban areas in Alaska outside the local Bristol Bay area (AUNs) represented 14.5% (233/1,610) of those who registered, and permit holders from rural areas in Alaska outside the local Bristol Bay area (ARNs) represented 8.5% (136/1,610).

<sup>7</sup> There are some vessels that represented a “one-permit” operation in one district and a “two-permit” operation in another district at a different point in the season. For the fishery as a whole, these vessels are counted as “two-permit” operations in Table 3.1a.

<sup>8</sup> In this report, “distinct” means that the person has only been counted once in the totals irrespective of the number of times the person had a registration transaction.

Nonresident permit holders were more likely than other resident-types to be involved in a two-permit operation. Of the 947 nonresident permit holders registered for the fishery, 40.1% (380/947) were determined to be in a two-permit operation. In contrast, only 18.0% (53/294) of permit holders from the local Bristol Bay area were determined to be in a two-permit operation.

### 3.1b. Resident-Type Combinations of Permit Holders in Two-Permit Operations in 2009 – All Districts Combined

Table 3.1b provides counts of resident-type combinations of permit holders classified as two-permit operations at some time during the 2009 season. The table shows that 59% (164/278) of two-permit operations occurred on vessels where the permit holders were both classified as nonresidents (NON-NON). Permit holders from urban areas in Alaska outside the local Bristol Bay area and nonresidents were the second largest resident-type combination representing 11.9% (33/278) (AUN-NON) of the two-permit operations.

*Table 3.1b. Resident-Type Combinations of Permit Holders Registered to Vessels Classified as Two-Permit Operations during 2009.*

<b>Resident-Type Combinations</b>	<b>Number of Two-Permit Operations</b>	<b>Percent</b>
ARL-ARL	19	6.8%
ARN-ARL	3	1.1%
AUN-ARL	4	1.4%
ARL-NON	8	2.9%
ARN-ARN	15	5.4%
AUN-ARN	1	0.4%
ARN-NON	9	3.2%
AUN-AUN	22	7.9%
AUN-NON	33	11.9%
NON-NON	<u>164</u>	<u>59.0%</u>
Total	278	100.0%

With the exception of the high frequency for the “AUN-NON” resident-type combination, two-permit operations among permit holders from the same resident-type tended to be more common than two-permit operations among permit holders from different resident-types. Collectively, two-permit operations among persons from the same resident-type represented 79.1 % (220/278) of all two-permit operations.<sup>9</sup>

<sup>9</sup> The transaction costs needed to form a two-person operation may be lower for persons who know each other and/or have a prior relationship. Such persons may tend to come from the same resident-type. Some two-person operations may be among persons who are related.

**3.1c. Number of Districts Used by Vessels Registered for the Bristol Bay Drift Gillnet Fishery during 2009 - All Districts Combined**

Of the 1,331 distinct vessels with a 2009 registration observation for the Bristol Bay drift gillnet fishery, 65.5% (872/1,331) were registered for a single district, 27.2% (362/1,331) were associated with registrations in two districts, 7.1% (94/1,331) were associated with registrations in three districts, and 0.2% (3/1,331) were associated with registrations in four districts. These data are shown in Table 3.1c.

*Table 3.1c. Number of Districts Used by Vessels Registered for the Bristol Bay Drift Gillnet Fishery during 2009 - All Districts Combined.<sup>10</sup>*

Number of Districts	All Vessels		One-Permit Vessels		Two-Permit Vessels	
	Number	Pct.	Number	Pct.	Number	Pct.
1	872	65.5%	748	71.0%	124	44.6%
2	362	27.2%	244	23.2%	118	42.4%
3	94	7.1%	59	5.6%	35	12.6%
4	3	0.2%	2	0.2%	1	0.4%
Total	1,331	100%	1,053	100%	278	100%

Two-permit vessels were more likely than one-permit vessels to be used in multiple districts over the course of the season. For the fishery as a whole, 55.4% (154/278) of the two-permit vessels were used in multiple districts, while only 29.0% (305/1,053) of one-permit vessels were used in multiple districts.

---

<sup>10</sup>In most circumstances, the Bristol Bay district registration requirement is waived after July 17 at 9:00 a.m.

This page intentionally left blank.

#### 4.0 Estimates of One and Two-Permit Operations by Bristol Bay District

Section 4.0 provides estimates of the number of one-permit and two-permit operations for each of the five individual fishing districts during 2009. The five fishing districts are Togiak, Nushagak, Naknek-Kvichak, Egegik, and Ugashik.

#### 4.1 Togiak District

There were 54 registration observations for the Togiak District in the 2009 Bristol Bay drift gillnet district registration data. These observations represented 53 distinct vessels, 54 distinct CFEC permits, and 54 distinct individuals. One vessel had registration observations for two CFEC permit holders. It was the only two-permit operation for the district.

Registration and re-registration for the Togiak District is covered in 5AAC 06.370. For most of the season, the Togiak District is regulated almost like a “super-exclusive” registration district for permit holders. During that time period, permit holders who register for the Togiak District cannot switch to another district and permit holders who register for other districts cannot switch to the Togiak District.<sup>11</sup> The fishery in the Togiak District tends to be slower-paced and less congested which may make two-permit operations less attractive than in the other Bristol Bay districts.

#### 4.1a. Resident-Types of Permit Holders in the Togiak District

The resident-types of the 54 CFEC permit holders who registered for the Togiak District at some time during 2009 are shown in the Table 4.1a.

*Table 4.1a. Resident-Types of Togiak-Registered Permit Holders by Operation-Type in 2009.*

Resident Type	All Permit Holders		Permit Holders on One-Permit Operations		Permit Holders on Two-Permit Operations	
	Number	Pct.	Number	Pct.	Number	Pct.
ARL	48	88.9%	48	100%	0	0%
ARN	1	1.9%	1	100%	0	0%
AUN	3	5.6%	3	100%	0	0%
NON	2	3.7%	0	0%	2	100%
TOTAL	54	100.0%	52	96.3%	2	3.7%

Of the 54 distinct permit holders who appear in the 2009 Togiak District registration data, 96.3% (52/54) were determined to be in one-permit operations, and 3.7% (2/54) were in two-permit operations.

<sup>11</sup> 5 AAC 06.370(k).

Persons from the local Bristol Bay area (ARLs) were the largest group representing 88.9% (48/54) of the distinct persons who registered for the Togiak District. Permit holders from urban areas in Alaska outside the local Bristol Bay area (AUNs) were the second largest group representing 5.6% (3/54) of the distinct persons who registered for the district. There were two nonresidents who registered for the Togiak District.

**4.1b. Resident-Type Combinations of Permit Holders in Two-Permit Operations in the Togiak District**

Resident-type combinations of permit holders registered in the Togiak District to vessels with two-permit holders are shown in Table 4.1b. The two nonresidents (NON-NON) constituted the only two-permit operation for Togiak.

*Table 4.1b. Resident-Type Combinations of Permit Holders Registered to Vessels Classified as Two-Permit Operations in the Togiak District during the 2009 Season.*

<b>Resident-Type Combinations</b>	<b>Number of Two-Permit Operations</b>	<b>Percent</b>
ARL-ARL	0	0.0%
ARN-ARL	0	0.0%
AUN-ARL	0	0.0%
ARL-NON	0	0.0%
ARN-ARN	0	0.0%
AUN-ARN	0	0.0%
ARN-NON	0	0.0%
AUN-AUN	0	0.0%
AUN-NON	0	0.0%
NON-NON	<u>1</u>	<u>100.0%</u>
Total	1	100.0%

**4.1c. Number of Districts Used by Vessels Registered for the Togiak District in 2009**

Of the 53 distinct vessels with a 2009 registration observation for the Togiak District, only one was classified as a two-permit operation (Table 4.1c). In addition, that individual two-permit vessel was the only Togiak-registered vessel that used another district during 2009.



Table 4.1c. Number of Districts Used by Vessels Registered for the Togiak District during 2009.<sup>12</sup>

Number of Districts	All Vessels		One-Permit Vessels		Two-Permit Vessels	
	Number	Pct.	Number	Pct.	Number	Pct.
1	52	98.1%	52	100%	0	0%
2	1	1.9%	0	0%	1	100%
3	0	0%	0	0%	0	0%
4	0	0%	0	0%	0	0%
Total	53	100%	52	100%	1	100%

## 4.2 Nushagak District

There were 555 registration observations for the Nushagak District in the 2009 Bristol Bay drift gillnet district registration data. These observations represented 431 distinct vessels, 542 distinct CFEC permits, and 542 distinct individuals. Some CFEC permits and permit holders had more than one registration observation in the Nushagak data due to in-season district changes and returns. Some vessels had more than one observation for similar reasons and also because some vessels had registration observations with more than one CFEC permit. Of the 431 vessels with at least one 2009 registration observation for the Nushagak District, 320 (74.2%) of the vessels were classified as one-permit operations and 111 (25.8%) of the vessels as two-permit operations.

### 4.2a. Resident-Types of Permit Holders in the Nushagak District

The resident-type of the 542 CFEC permit holders who registered for the Nushagak District at some time during 2009 are shown in Table 4.2a below.

Table 4.2a. Resident-Types of Nushagak-Registered Permit Holders by Operation-Type in 2009.

Resident Type	All Permit Holders		Permit Holders on One-Permit Operations		Permit Holders on Two-Permit Operations	
	Number	Pct.	Number	Pct.	Number	Pct.
ARL	145	26.7%	108	74.5%	37	25.5%
ARN	79	14.6%	52	65.8%	27	34.2%
AUN	71	13.1%	45	63.4%	26	36.6%
NON	247	45.6%	115	46.5%	132	53.4%
TOTAL	542	100%	320	59.0%	222	41.0%

<sup>12</sup>In most circumstances, the Bristol Bay district registration requirement is waived after July 17 at 9:00 a.m.

Of the 542 distinct persons who appear in the Nushagak data, 59% (320/542) were determined to be in one-permit operations and 41% (222/542) were in two-permit operations. Nonresidents were the largest group representing 45.6% (247/542) of the distinct persons registered for the district. Permit holders from the local Bristol Bay area (ARLs) were the second largest group, representing 26.7% (145/542) of the distinct persons registered for the district.

Nonresidents who registered for the Nushagak District were much more likely than any other resident-type to be in two-permit operations. Of the 247 distinct nonresidents who registered for the district, 53.4% were in two-permit operations.

In contrast, persons from the local Bristol Bay area who registered for the Nushagak District were much more likely than any other resident-type to be in a one-permit operation. Of the 145 distinct persons from the local area who registered for the district, 74.5% (108/145) were associated with vessels classified as one-permit operations, while 25.5% (37/145) were associated with vessels classified as two-permit operations.

#### **4.2b. Resident-Type Combinations of Permit Holders in Two-Permit Operations in the Nushagak District**

Table 4.2b shows the resident-type combinations of permit holders registered to vessels with two permit holders in the Nushagak District at some time during 2009. An estimated 51.4% (57/111) of two-permit operations in the Nushagak District occurred on vessels where the permit holders were both classified as nonresidents (NON-NON). Permit holders from areas local to the Bristol Bay area (ARL-ARL) represented 12.6% (14/111) of the two-permit operations in the district.

*Table 4.2b. Resident-Type Combinations of Persons Registered to Vessels Classified as Two-Permit Operations in the Nushagak District During the 2009 Season.*

<b>Resident-Type Combinations</b>	<b>Number of Two-Permit Operations</b>	<b>Percent</b>
ARL-ARL	14	12.6%
ARN-ARL	3	2.7%
AUN-ARL	3	2.7%
ARL-NON	3	2.7%
ARN-ARN	9	8.1%
AUN-ARN	0	0.0%
ARN-NON	6	5.4%
AUN-AUN	7	6.3%
AUN-NON	9	8.1%
NON-NON	<u>57</u>	<u>51.4%</u>
Total	111	100.0%

Two-permit operations among persons from the same resident-type tended to be more common than two-permit operations among persons from different resident-types. Collectively, two-permit operations among persons from the same resident-type represented 78.4% (87/111) of all two-person operations, while two-permit operations among persons from different resident-types represented 21.6% (24/111).

#### 4.2c. Number of Districts Used by Vessels Registered for the Nushagak District

Of the 431 distinct vessels with a 2009 registration observation for the Nushagak District, 52.7% (227/431) were registered for a single district, 32.5% (140/431) were associated with registrations in two districts, 14.2% (61/431) were associated with registrations in three districts, and 0.7% (3/431) were associated with registrations in four districts (Table 4.2c).

Table 4.2c. Number of Districts Used by Vessels Registered for the Nushagak District.

Number of Districts	All Vessels		One-Permit Vessels		Two-Permit Vessels	
	Number	Pct.	Number	Pct.	Number	Pct.
1	227	52.7%	186	58.1%	41	36.9%
2	140	32.5%	95	29.7%	45	40.5%
3	61	14.2%	37	11.6%	24	21.6%
4	3	0.7%	2	0.6%	1	0.9%
Total	431	100.0%	320	100.0%	111	100.0%

Of the vessels that registered for the Nushagak District at some time during 2009, two-permit operations (63.1%) were more likely to have been used in multiple districts than one-permit operations (41.9%).

#### 4.3 Naknek-Kvichak District

There were 757 registration observations for the Naknek-Kvichak District in the 2009 Bristol Bay drift gillnet district registration data. These observations represent 597 distinct vessels, 715 distinct CFEC permits, and 716 distinct individuals. Some CFEC permits and permit holders had more than one registration observation in the Naknek-Kvichak data due to in-season district changes and returns. Some vessels had more than one observation for similar reasons and also because some vessels had registration observations with more than one CFEC permit.

Of the 597 vessels with at least one 2009 registration observation for the Naknek-Kvichak District, 80.2% (479/597) of the vessels were classified as one-permit operations and 19.8% (118/597) of the vessels as two-permit operations.

#### 4.3a. Resident-Type of Permit Holders in the Naknek-Kvichak District

The resident-type of the 716 CFEC permit holders who registered for the Naknek-Kvichak District at some time during 2009 are shown in the Table 4.3a.

Table 4.3a. Resident-Types of Naknek/Kvichak-Registered Permit Holders by Operation-Type in 2009.

Resident Type	All Permit Holders		Permit Holders on One-Permit Operations		Permit Holders on Two-Permit Operations	
	Number	Pct.	Number	Pct.	Number	Pct.
ARL	73	10.2%	61	83.6%	12	16.4%
ARN	57	7.9%	36	63.2%	21	36.8%
AUN	110	15.4%	82	74.5%	28	25.5%
NON	476	66.5%	299	62.8%	177	37.2%
TOTAL	716	100%	478	66.8%	238	33.2%

Of the 716 distinct permit holders who appear in the Naknek-Kvichak data, 66.8% (478/716) of the permit holders were determined to be in one-person operations, and 33.2% (238/716) were in two-person operations. Nonresidents were the largest group of permit holders, representing 66.5% (476/716) of the distinct persons registered for the district. Alaska residents from urban communities that are not local to the Bristol Bay area (AUNs) were the second largest group of permit holders representing 15.4% (110/716) of those registered for the district.

Alaska residents from rural communities not local to the Bristol Bay area (ARNs) and nonresidents who registered for the Naknek-Kvichak District were more likely than the other resident-types to be in a two-permit operation. Of the 57 ARNs who registered for the district, 36.8% (21/57) were in two-permit operations. Similarly, of the 476 distinct nonresidents who registered for the district, 37.2% (177/476) were in two-permit operations.

In contrast, persons from the local Bristol Bay area who registered for the Naknek-Kvichak District were more likely than any other resident-type to be in a one-permit operation. Of the 73 distinct persons from the local area who registered for the district, 83.6% (61/73) were determined to be in one-permit operations and 16.4% (12/73) were in two-permit operations.

#### 4.3b. Resident-Type Combinations of Permit Holders in Two-Permit Operations in the Naknek-Kvichak District

Resident-type combinations of permit holders in the Naknek-Kvichak District registered to vessels classified as two-permit operations are shown in Table 4.3b. An estimated 64.4% (76/118) of the two-permit operations occurred on vessels where the permit holders were both classified as nonresidents (NON-NON). Permit holders from urban

areas in Alaska outside the local Bristol Bay area and nonresidents (AUN-NON) were the second largest resident-type combination representing 13.6% (16/118) of the two-permit operations in the district.

*Table 4.3b. Resident-Type Combinations of Permit Holders Registered to Vessels Classified as Two-Permit Operations in the Naknek-Kvichak District.*

<b>Resident-Type Combination</b>	<b>Number of Two-Permit Operations</b>	<b>Percent</b>
ARL-ARL	4	3.4%
ARN-ARL	0	0.0%
AUN-ARL	1	0.8%
ARL-NON	3	2.5%
ARN-ARN	8	6.8%
AUN-ARN	1	0.8%
ARN-NON	4	3.4%
AUN-AUN	5	4.2%
AUN-NON	16	13.6%
NON-NON	<u>76</u>	<u>64.4%</u>
Total	118	100.0%

With the exception of the high frequency of the “AUN-NON” resident-type combination, two-permit operations among persons from the same resident-type tended to be more common than two-permit operations among persons from different resident-types. Collectively, two-permit operations among persons from the same resident-type represented 78.8% (93/118) of all two-permit operations, while two-permit operations among persons from different resident-types represented 22.2% (25/118).

#### **4.3c. Number of Districts Used by Vessels Registered for Naknek-Kvichak**

Of the 597 distinct vessels with a 2009 registration observation for the Naknek-Kvichak District, 53.4% (319/597) of the vessels were registered for a single district, 35.0% (209/597) were associated with registrations in two districts, 11.1% (66/597) were associated with registrations in three districts, and 0.5% (3/597) were associated with registrations in four districts (Table 4.3c).

Table 4.3c. Number of Districts Used by Vessels Registered for the Naknek-Kvichak District at Some Time during 2009.

Number of Districts	All Vessels		One-Permit Vessels		Two-Permit Vessels	
	Number	Pct.	Number	Pct.	Number	Pct.
1	319	53.4%	282	58.9%	37	31.4%
2	209	35.0%	149	31.1%	60	50.8%
3	66	11.1%	46	9.6%	20	16.9%
4	3	0.5%	2	0.4%	1	0.8%
Total	597	100.0%	479	100.0%	118	100.0%

Of the vessels that registered for the Naknek-Kvichak District at some time during 2009, two-permit vessels (68.6%) were more likely to have been used in multiple districts than one-permit vessels (41.1%).

#### 4.4 Egegik District

There were 709 registration observations for the Egegik District in the 2009 Bristol Bay drift gillnet district registration data. These observations represented 528 distinct vessels, 663 distinct CFEC permits, and 664 distinct individuals. Some CFEC permits and permit holders had more than one registration observation in the Egegik data due to in-season district changes and returns. Some vessels had more than one observation for similar reasons and also because some vessels had registration observations with more than one CFEC permit. One CFEC permit in the Egegik data was held and registered by two separate individuals at different points in the season.

Of the 528 vessels with at least one 2009 registration observation for the Egegik District, 74.2% (392) of the vessels were classified as one-permit operations and 25.8% (136) of the vessels as two-permit operations.

##### 4.4a. Resident-Types of Permit Holders Registered to Vessels in the Egegik District

The resident-type of the CFEC permit holders who registered for the Egegik District at some time during 2009 are shown in the Table 4.4a.<sup>13</sup> Of the 664 distinct permit holders who appear in Egegik data, 59.0% (392/664) were determined to be in one-permit operations and 41.0% (272/665) were in two-permit operations.

<sup>13</sup> Note that one permit holder had 2009 registration observations in the Egegik district with both a one-permit vessel and a two-permit vessel.

Table 4.4a. Resident-Types of Egegik-Registered Permit Holders by Operation-Type in 2009.

Resident Type	All Permit Holders		Permit Holders on One-Permit Operations		Permit Holders on Two-Permit Operations	
	Number	Pct.	Number	Pct.	Number	Pct.
ARL	38	5.7%	28	73.7%	10	26.3%
ARN	53	8.0%	40	75.5%	13	24.5%
AUN	106	16.0%	60	56.6%	46	43.4%
NON	467	70.3%	264	56.5%	203	43.5%
TOTAL	664	100.00%	392	59.0%	272	41.0%

Of the 664 distinct permit holders, nonresidents were the largest group representing 70.3% (467/664) of the distinct persons registered for the district. Alaska residents from urban communities that are not local to the Bristol Bay area (AUNs) were the second largest group of permit holders representing 16.0% (106/664) of the distinct persons registered for the Egegik District.

Alaska residents from urban communities that are not local to the Bristol Bay area (AUNs) and nonresidents who registered for the Egegik District were more likely than the other resident-types to be in two-permit operations. Of the 106 AUNs who registered for the district, 43.4% (46/106) were determined to be in two-permit operations. Similarly, of the 467 distinct nonresidents who registered for the district, 43.5% (203/664) were in two-permit operations.

Persons from rural communities that are not local to the Bristol Bay area (ARNs) as well as persons from the local Bristol Bay area (ARLs) who registered for the Egegik District were more likely than any other resident-types to be in one-permit operations during the 2009 season. Of the 53 distinct ARNs who registered for the district, 75.5% (40/53) were determined to be in one-permit operations, while 24.5% (13/53) were in two-permit operations. Of the 38 distinct ARLs who registered for the district, 73.7% (28/38) were determined to be in one-permit operations, while 26.3% (10/38) were in two-permit operations.

#### **4.4b. Resident-Type Combinations of Permit Holders in Two-Permit Operations in the Egegik District**

Resident-type combinations of permit holders who registered in the Egegik District to vessels with two permit holders are shown in Table 4.4b. An estimated 65.4% (89/136) of two-permit operations in the District occurred on vessels where the permit holders were both classified as nonresidents (NON-NON).

*Table 4.4b. Resident-Type Combinations of Permit Holders Registered to Vessels Classified as Two-Permit Operations in the Egegik District during the 2009 Season.*

<b>Resident-Type Combinations</b>	<b>Number of Two-Permit Operations</b>	<b>Percent</b>
ARL-ARL	3	2.2%
ARN-ARL	1	0.7%
AUN-ARL	0	0.0%
ARL-NON	3	2.2%
ARN-ARN	5	3.7%
AUN-ARN	0	0.0%
ARN-NON	2	1.5%
AUN-AUN	13	9.6%
AUN-NON	20	14.7%
NON-NON	<u>89</u>	<u>65.4%</u>
Total	136	100.0%

Permit holders from urban areas in Alaska outside the local Bristol Bay area and nonresidents (AUN-NON) were the second largest resident combination representing 14.7% (20/136) of the two-permit operations.

With the exception of the high frequency for the “AUN-NON” resident-type combination, two-permit operations among permit holders from the same resident-type tended to be more common than two-permit operations among permit holders from different resident-types. Collectively, two-permit operations among persons from the same resident-type represented about 80.9 % (110/136) of all two-permit operations in the Egegik District during 2009.<sup>14</sup>

#### **4.4c. Number of Districts Used by Vessels Registered for the Egegik District**

Table 4.4c provides insights on the use of multiple districts by vessels that were registered for the Egegik District at some time during the 2009 season.

Of the 528 distinct vessels with a 2009 registration observation for the Egegik District, 46.2% (244/528) of the vessels were registered for a single district, 39.2% (207/528) of the vessels were associated with registrations in two districts, 14.0% (74/528) of the vessels were associated with registrations in three districts, and 0.6% (3/528) were associated with registrations in four districts.

---

<sup>14</sup> The transaction costs needed to form a two-person operation may be lower for persons who know each other and/or have a prior relationship. Such persons may tend to come from the same resident-type. Some two-person operations may be between persons who are related.



Table 4.4c. Number of Districts Used by Vessels Registered for the Egegik District.

Number of Districts	All Vessels		One-Permit Vessels		Two-Permit Vessels	
	Number	Pct.	Number	Pct.	Number	Pct.
1	244	46.2%	200	51.0%	44	32.4%
2	207	39.2%	142	36.2%	65	47.8%
3	74	14.0%	48	12.2%	26	19.1%
4	3	0.6%	2	0.5%	1	0.7%
Total	528	100.0%	392	100.0%	136	100.0%

Two-permit vessels registered for the Egegik District were more likely than one-permit vessels to have used another district(s) at some time during the 2009 season. About 67.6% of the two-permit vessels registered for Egegik used another districts(s) at some time during the 2009 season. In contrast, about 49.0% of the one-permit vessels switched districts during the 2009 season.

#### 4.5 Ugashik District

There were 395 registration observations for the Ugashik District in the 2009 Bristol Bay drift gillnet district registration data. These observations represented 281 distinct vessels, 370 distinct CFEC permits, and 370 distinct individuals. Some CFEC permits and permit holders had more than one registration observation in the Ugashik District due to in-season district changes and returns.

Some vessels had more than one observation for similar reasons and also because some vessels had registration observations with more than one CFEC permit. Of the 281 vessels with at least one 2009 registration observation for the Ugashik District, 68.3% (192/281) of the vessels were classified as one-permit operations, and 31.7% (89/281) of the vessels were classified as two-permit operations.

##### 4.5a. Resident-Types of Permit Holders in the Ugashik District

The resident-type of the CFEC permit holders who registered for the Ugashik District at some time during 2009 are shown in Table 4.5a.

Table 4.5a. Resident-Types of Ugashik-Registered Permit Holders by Operation-Type in 2009.

Resident Type	All Permit Holders		Permit Holders on One-Permit Operations		Permit Holders on Two-Permit Operations	
	Number	Pct.	Number	Pct.	Number	Pct.
ARL	41	11.1%	32	78.1%	9	22.0%
ARN	33	8.9%	23	69.7%	10	30.3%
AUN	77	20.8%	38	49.3%	39	50.7%
NON	219	59.2%	99	45.2%	120	54.8%
TOTAL	370	100.00%	192	51.9%	178	48.1%

Of the 370 distinct permit holders who appear in the 2009 Bristol Bay district registration data for the Ugashik District, an estimated 51.9% (192/370) were in one-permit operations, and 48.1% (178/370) were in two-permit operations.

Of the 370 distinct permit holders, nonresidents were the largest group representing 59.2% (219/370) of the distinct persons registered for the district. Alaska Residents from urban communities that are nonlocal to Bristol Bay area (AUNs) were the second largest group representing 20.8% (77/370) of the distinct persons registered for the district.

Nonresidents who registered for the Ugashik District were much more likely than any other resident-type to be in two-permit operations. Of the 219 distinct nonresidents who registered for the district, 54.8% (120/219) were in two-permit operations.

In contrast, persons from the local Bristol Bay area who registered for the Ugashik District were more likely than any other resident-type to be in a one-permit operation. Of the 41 distinct persons from the local area who registered for the district, an estimated 78.0% (32/41) were determined to be in one-permit operations, while 22.0% (9/41) were in two-permit operations.

#### **4. 5b. Resident-Type Combinations of Permit Holders in Two-Permit Operations in the Ugashik District**

Resident-type combinations of permit holders in the Ugashik District who registered to vessels with two permit holders are shown in the Table 4.5b.

About 53.9% (48/89) of two-permit operations occurred on vessels where the permit holders were both classified as nonresidents (NON-NON). Permit holders from urban areas in Alaska outside the local Bristol Bay area and nonresidents (AUN-NON) were the second largest resident-type combination representing 21.3% (19/89) of the two-permit vessels.

*Table 4.5b. Resident-Type Combinations of Permit Holders Registered to Vessels Classified as Two-Permit Operations in the Ugashik District During the 2009 Season.*

<b>Resident-Type Combinations</b>	<b>Number of Two-Permit Operations</b>	<b>Percent</b>
ARL-ARL	3	3.4%
ARN-ARL	1	1.1%
AUN-ARL	0	0.0%
ARL-NON	2	2.2%
ARN-ARN	3	3.4%
AUN-ARN	0	0.0%
ARN-NON	3	3.4%
AUN-AUN	10	11.2%
AUN-NON	19	21.3%
NON-NON	<u>48</u>	<u>53.9%</u>
Total	89	100.0%

With the exception of the high frequency for the “AUN-NON” resident-type combination, two-permit operations among permit holders from the same resident-type tended to be more common than two-permit operations among permit holders from different resident-types. Collectively, two-permit operations among persons from the same resident-type represented 71.9 % (64/89) of all two-permit operations.<sup>15</sup>

#### **4.5c. Number of Districts Used by Vessels Registered for Ugashik**

Table 4.5c below provides insights into the use of multiple districts by vessels registered for Ugashik at some time during 2009. The Ugashik District appears to have the highest percentage of vessels associated with registrations in two or more districts. Of the 281 distinct vessels with a 2009 registration observation for the Ugashik District, 10.7% (30/281) were registered for a single district, 59.4% (167/281) were associated with registrations in two districts, 28.8% (81/281) were associated with registrations in three districts, and 1.1% (3/281) were associated with registrations in four districts.

---

<sup>15</sup> The transaction costs needed to form a two-person operation may be lower for persons who know each other and/or have a prior relationship. Such persons may tend to come from the same resident-type. Some two-person operations may be among persons who are related.

Table 4.5c. Number of Districts Used by Vessels Registered for the Ugashik District.

Number of Districts	All Vessels		One-Permit Vessels		Two-Permit Vessels	
	Number	Pct.	Number	Pct.	Number	Pct.
1	30	10.7%	28	14.6%	2	2.2%
2	167	59.4%	108	56.2%	59	66.3%
3	81	28.8%	53	27.6%	28	31.5%
4	3	1.1%	3	1.6%	0	0%
Total	281	100.0%	192	100.0%	89	100.0%

Two-permit vessels registered for the Ugashik District were more likely than one-permit vessels to have used another district(s) at some time during the 2009 season. About 97.8% (87/89) of the two-permit vessels registered for Ugashik used another district(s) at some time during the 2009 season. In contrast, about 85.4% (164/192) of the one-permit vessels used another district(s) at some time during the 2009 season.

## 5.0 Summary of Results

In 2003, the Alaska Board of Fisheries (Board) passed a regulation (5 AAC 06.333) for the Bristol Bay salmon drift gillnet fishery, that allows two Commercial Fisheries Entry Commission (CFEC) permit holders who opt to fish together on a single vessel to use 200 fathoms of gear (an additional 50 fathoms) under certain conditions. The regulation first went into effect for the 2004 season.

This report has used ADF&G district registration data coupled with CFEC permit data to estimate the use of two-permit operations in the Bristol Bay salmon drift gillnet fishery during the 2009 season. The report examines the number and percent of vessels and the number and percent of CFEC permit holders involved in one-permit and two-permit operations. Data are provided for the fishery as a whole and for individual districts.

For the fishery as a whole, two-permit operations occurred on an estimated 20.9% (278) of the 1,331 vessels registered during the season and one-permit only operations occurred on 79.1% (1,053) of the vessels.

Of the 1,610 distinct permit holders who registered during the season, 34.7% (558) were involved in a two-permit operation during the season, while 65.3% (1,052) were involved in a one-permit operation only.

Permit holder involvement in two-permit operations varied by fishing district, from a low of 3.7% of permit holders registered for the Togiak District to a high of 48.1% of permit holders registered for the Ugashik District. Table 5.0 below summarizes use of one-permit and two-permit operations by fishing district.<sup>16</sup>

*Table 5.0. Counts of Distinct Permit Holders by Fishing District and Operation Type.*

Fishing District	Total Permit Holders	One-Permit Operations		Two-Permit Operations	
		# of Permit Holders	% of Permit Holders	# of Permit Holders	% of Permit Holders
Togiak	54	52	96.3%	2	3.7%
Nushagak	542	320	59.0%	222	41.0%
Naknek-Kvichak	716	478	66.8%	238	33.2%
Egegik	664	392	59.0%	272	41.0%
Ugashik	370	192	51.9%	178	48.1%
All Districts	1,610	1,052	65.3%	558	34.7%

The report classifies permit holders into one of four resident types based upon the community in which they reside. The four resident-types are defined as Alaska residents living in a rural community that is local to the fishery (ARLs), Alaska residents living in a rural community that is non-local to the fishery (ARNs), Alaska residents living in an

<sup>16</sup> Note that the sum of the counts of distinct permit holders registered for each district is more than the count of distinct permit holders over all districts since some permit holders switched districts during the season.

urban community that is non-local to the fishery (AUNs), and nonresidents of Alaska (NON).

Nonresidents were involved in two-permit operations more than any other resident-type. For the fishery as a whole, 40.1% (380/947) of nonresidents were involved in a two-permit operation during the season. In contrast, local permit holders were involved in two-permit operations less than any other resident-type. For the fishery as a whole, 18.0% (53/294) of local permit holders were involved in two-permit operations.

Two-permit operations were more common among permit holders from the same resident-type. For the fishery as a whole, two-permit operations formed by permit holders from the same resident-type represented an estimated 79.1% (220/278) of all two-permit operations during 2009.

The vessels used in two-permit operations were more likely to be registered in multiple districts during 2009 than the vessels used in one-permit operations. For the fishery as a whole, 55.4% (154) of the 278 two-permit vessels switched districts at some time during the season, while only 29.0% (305) of the 1,053 one-permit vessels switched districts.

More detailed data on these topics, specific to each district, can be found in Section 4 of this report.