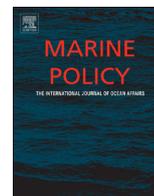




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Factors affecting local permit ownership in Bristol Bay

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ABSTRACT

Since the first limited entry Bristol Bay drift and set gillnet permits were issued in 1975, many local residents have sold their permits to non-resident fishermen. Declining local permit ownership destabilizes the main economic base of the region. Previous studies have documented the decline of locally owned permits and have proposed social and economic hypotheses that could explain why local permit ownership is declining in limited entry fisheries in Alaska. To stem the outward flow of permits, the Bristol Bay Economic Development Corporation operates a Permit Loan Program to assist Bristol Bay watershed residents in buying permits. Despite its generous benefits, it has not reversed the decline in local permit ownership. This paper examines why residents enter or exit the fishery. Hypotheses on permit retention were tested through interviews with Bristol Bay fishery participants. Interviewees indicate stronger cultural and familial ties than economic factors to fishing. As local permit ownership has declined, these ties are being lost, leading to declining interest in the fishery. Commercial fishing is a competitive and costly enterprise. Successful participants in the fisheries, especially the drift gillnet fishery, are financially savvy with supplemental non-fishing income that outcompete residents by catching most of the fish. The Bristol Bay Economic Development Corporation Permit Loan Program appears unable to stop the local loss of permits. There are no obvious ways to expand local permit ownership and retaining local permits remains a major challenge for the region. However, it is important for local residents to participate in the fishery because it keeps communities economically and socially healthy, gives residents access to their local resources and strengthens their voice in managing their local resources.

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1. Introduction

This paper examines the decline of local permit ownership in the Bristol Bay drift and gillnet fisheries. The term “local” refers to residents of communities in Bristol Bay and “non-local” to refer to all other individuals, including other Alaska residents. The loss of local permit ownership has long been a concern in Bristol Bay whose economy. While the region supports the world’s largest sockeye commercial fisheries, many residents do not have access to this local resource and depend largely on a cashless, subsistence lifestyle [1]. The primary goal of this paper is to provide explanations for residents’ ability to retain and buy permits.

2. Bristol Bay permit system

Following an increase in participation and decline in run sizes, the State of Alaska reorganized many of their open access fisheries

into limited access fisheries. In 1973, the Alaska State Legislature passed the Limited Entry Act. The three main objectives of the Act are: 1. to increase the economic earnings of the Alaskan fishing industry; 2. to enhance biological management of the fishery; and 3. to assure resident fishermen of participation in their local fishery [2]. In 1975, permits were issued to participants who could demonstrate historic participation and economic dependence on the fishery.

In 1980, Langdon [3] evaluated permit transfer trends in these newly reorganized fisheries, finding that rural permit ownership² had noticeably declined in many fisheries, just 5 years after the first permits were issued. 3.5% of permit holders who lived in rural areas local to their fishery had transferred their permit to non-residents. Permit transfers to non-residents included sales, gifts and permit holders who had moved out of the region.

The decline of locally owned permits has been acutely felt in Bristol Bay fisheries, especially the drift gillnet fishery. The total number of permits in the drift gillnet fishery has fluctuated over

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² For simplicity, this paper refers to people owning Alaska limited entry permits. Alaska limited entry permits can not be owned but give the permit holder access to the fishery.

time as permit application appeals have been adjudicated, but the number of locally owned permits has declined over time. In 1975, local residents were issued 684 of 1778 permits. By 2014, the number of locally owned permits had declined to 373 of 1875 permits (Fig. 1).

The number of locally owned set gillnet permits has fluctuated as permit application appeals have been adjudicated but has declined over time too. The number of locally owned permits increased in two different time periods because a large number of permit application appeals were successful and more permits were issued in the fishery. In 1975, local residents were issued 518 of 928 permits. By 2014, the number of locally owned permits had declined to 379 of 1041 permits (Fig. 2).

Permit prices and ex-vessel values have fluctuated widely over time, based on harvest volume and salmon prices. In general, permit prices closely track ex-vessel values. The drift gillnet fishery is much more lucrative and experiences greater price swings than the set gillnet fishery. The largest decline in local permit ownership has occurred when permit prices are the high. The biggest decline in the number of locally owned permits was in the late 1980s when the average permit price topped \$248,000, a record price that has not been matched. Many local residents sold their permit and cashed out of the fishery (Fig. 3).

About the same time as the Limited Entry Act was passed, the State of Alaska created a commercial fishery loan program, designed to assist all state residents in buying permits. By 1980, 86% of loan participants were urban Alaskan residents. Participants were required to provide collateral and meet the debt service from their fishing income alone. During this period, no Bristol Bay residents participated in this program [3].

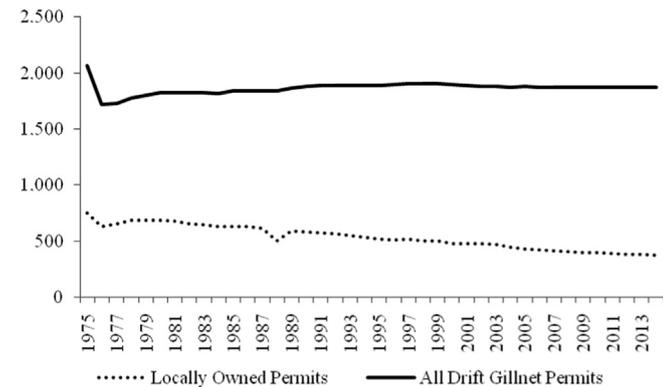


Fig. 1. The total number and number of locally owned drift gillnet permits in Bristol Bay from 1975–2014 [4].

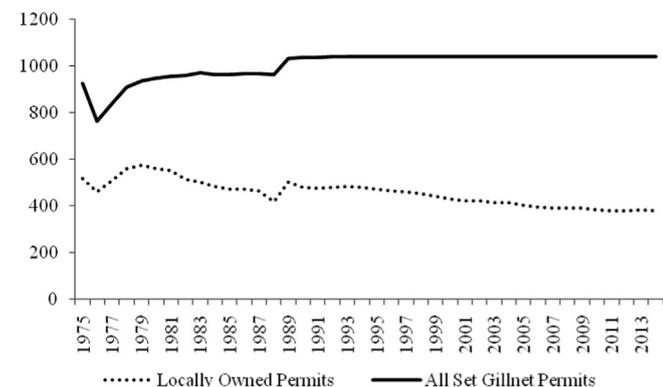


Fig. 2. The total number and number of locally owned set gillnet permits in Bristol Bay from 1975–2014 [4].

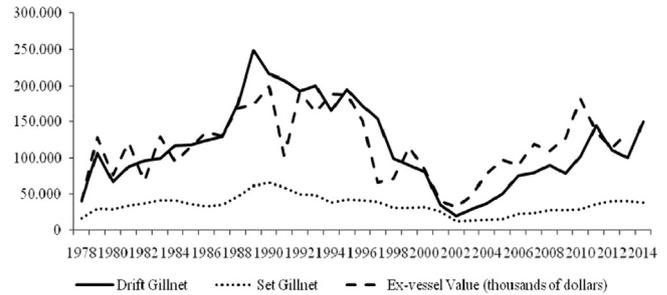


Fig. 3. Ex-vessel value, drift and set gillnet permit prices in Bristol Bay, 1978–2014. 1975–1978 permit price records are not available. These values have not been adjusted for inflation [5–7].

The State commercial fishery loan program likely accelerated the decline in local permit ownership in Bristol Bay. Urban residents used this program to buy Bristol Bay permits from local residents. Langdon predicted that without significant improvements in capital access for rural residents, permit outflow would continue in the future [3]. Indeed, the number of drift gillnet and set gillnet permits held by local Bristol Bay residents has declined from 42% in 1975 to 26% in 2014 [4].

Selling a permit to a non-resident has negative social and economic impacts on the community. Each permit creates 2–3 crewmember jobs. Traditionally, children fish with their mother at their set net site until the boys are old enough to drift gillnet with their fathers. Once a permit is sold, families no longer have access to the fishery and fishing knowledge is lost in that family. Future generations have a harder time participating in these fisheries.

Knapp [9] hypothesizes that statewide rural residents may have higher borrowing costs than urban residents, live in remote communities far from capital markets and have a paucity of credit histories that may be factors to capital cost differentials. Rural people may have worse credit, lack knowledge about government loan programs, live far from loan centers, have language and cultural barriers and lower personal wealth than non-residents [9]. A combination of these factors prevents many Bristol Bay residents from buying a permit.

The Bristol Bay Economic Development Corporation (BBEDC) is a Community Development Quota (CDQ) organization. Its mission is to promote fisheries economic development for member villages (those located within 50 miles of the Bering Sea coast). It receives annual harvest quotas of several Bering Sea fisheries. BBEDC invests its fishing revenues in the region to create economic opportunities. BBEDC started a Permit Loan Program [8]. This is the first loan program in the State to target a specific demographic.

The program helps experienced crewmembers buy a permit by offering generous subsidies. It tries to address some of the potential reasons why local residents do not participate in the statewide loan program. BBEDC requires a lower down payment, offers lower interest rates than other loan programs and pays for a portion of the permit. However, participation rates in this program have not reversed the decline in locally owned permits [8].

Langdon and Knapp suggest hypotheses on barriers to entry to explain why local permit ownership continues declining despite BBEDC's permit loan program. They suggest that there are still gaps in knowledge about why local residents have been unable to buy permits or retain their permit. These gaps of knowledge are likely language and cultural barriers, financial barriers, and geographic barriers. This paper addresses these gaps in knowledge by interviewing residents on local permit ownership and factors limiting their participation. Until these factors are addressed, it is likely that the number of locally owned permits will decline further.

3. Materials and methods

This study was based on the grounded theory method, a process of deduction and verification of existing data to generate new hypotheses about permit retention. The interviews consisted of open ended questions designed to test social processes in order to understand how all of these factors interact with each other. Interviews were coded into different groups [10].

Snowball and convenience interview techniques were used to interview the greatest number of people. Snowball sampling is a technique in which knowledgeable interview subjects recommended other key subjects. Interview subjects recommended other members in their community. Convenience sampling is a technique that selects the most accessible people to be interviewed [11].

Most of the participants resided in four Bristol Bay communities that were representative of the area, including the economic hub, two coastal villages, and an interior village. The 4 communities were Dillingham, a racially mixed community and one of two commercial fishing hubs in Bristol Bay (the other one is Naknek); Togiak, a BBEDC, fishing dependent Yupik community experiencing a renewed interest in fishing since Togiak Seafoods opened; Manokotak, a BBEDC, fishing dependent Yupik community; and New Stuyahok, a non-BBEDC, fishing dependent Yupik community.

Interview subjects were not randomly selected. Although randomly selecting interview subjects would have been ideal, it was not practical for this study. It would have been much harder to find as many respondents (124) through a random selection process. It was more important to interview a larger number of respondents, from diverse groups, in order to gain insights into how local residents talked about these issues.

Interview questions tested Knapp's hypotheses of barriers to entry. Semi-structured interviews were conducted with 5 different groups of residents that allowed them to talk about the issues in their own words [10]. The 5 groups were young people (18–35), crewmembers, permit holders, retired permit holders residing in the Bristol Bay watershed, and BBEDC staff and board members. Elite interviews were conducted with permit experts, BBEDC staff and board members, to learn more about the Permit Loan Program and permit retention. Interviews were conducted with 124 participants: 9 were elite and 123 were semi-structured interviews. With the exception of one individual, every elite interviewee was also a fishery participant and asked the same set of general questions [12].

Participants were asked a series of group questions about their experience in the fishery, supplemental non-fishing income, interest in buying a permit, and a separate set of questions corresponding to their specific situation. For instance, current permit holders were asked how they acquired their permit and former permit holders were asked why they sold their permit.

4. Results

These results should not be interpreted as statistically representative of all Bristol Bay residents or any interview groups. Rather, they should be interpreted as illustrative of at least some local Bristol Bay residents' experience and opinions. More importantly, what each interviewee said, and how they said it, helps in elucidating the reality of this complex and sensitive issue. Put differently, the interviews do not show the whole picture and do not necessarily represent the whole picture and the whole story. But they help to understand more clearly at least part of the picture and the story.

4.1. People's experience with fishing

In order to understand how to increase permit ownership, it is important to understand how current participants originally got into the fishery and if this represents how future participants are likely to get into the fishery. 90.9% of respondents said a family member taught them to fish.

Respondents express vivid memories of fishing with parents and grandparents.

"My grandfather had the same site that we had at Ekuk. It was 50 years ago, before permits. They went down and fished every year. He retired, giving it to my mom. There were no permits then either. We grew up [there] from when we were toddlers. We inherited it from our grandfather and we would never sell it. My mom registered and became a permit holder. She retired from fishing at 87 and gave the permit to me because I would never sell it [one of 13 kids]... It is our legacy, our heritage... We love that place." Permit Holder Set Gillnet Dillingham 8

As Permit Holder Set Gillnet Dillingham 8 respondent states, many older people got their permit through a family gift. Through gifting, a person could acquire a permit even if they had financial difficulties. Since a family member was gifting them their permit, they did not face language or cultural barriers because they were able to get a permit from within their community.

However, the pattern of younger people receiving their permit from an older family member is unlikely to persist for future generations. As people have been selling their permits, it leaves fewer opportunities for young people to gain experience in the fishery and be gifted a permit.

In Manokotak and New Stuyahok, two communities that have lost a significant number of permits, elderly respondents said that many young people are not interested in fishing and it is difficult to find crewmembers. Young people countered that they did not have a lot of experience fishing because their parents or grandparents had sold their permit.

Although Knapp did not propose a lack of interest in the fishery, it could help explain why people are not participating in BBEDC's Permit Loan Program. New methods of acquiring this fishing knowledge must be developed so young people can continue fishing in the future.

4.2. How permit holders acquired their permits

To understand what affects local permit ownership and what can be done to increase local permit ownership, it is important to understand how current and former permit holders acquired their permits. If many current and former permit holders bought their permits, this suggests it is not necessarily difficult for locals to buy permits.

Most current permit holders are gifted their permit from their family or through initial allocation. Relatively few current or former permit holders bought permits. This suggests that it is uncommon for people to buy a permit.

Permit Holder Drift Gillnet New Stuyahok 1 talks about how he acquired his permit, a common pattern for many middle aged permit holders.

"Dad gave me the permit. He had it for years. I was too young to get a permit from the State [initial allocation]. My grandfather was done fishing... He got a permit and gave it to my cousin. We fished with my grandfather and my cousin worked harder and better so he gave it to him. When I do good fishing, I try to get [sic] some money to my father." Permit Holder Drift Gillnet New Stuyahok 1

However, to become a permit holder today, most young people will have to buy a permit because their family member sold their permit. This is a radical change from older generations who got their permit from a family member or for free from the initial allocation. Many young people are interested in buying a permit but often they have little or no credit history to help them qualify for a bank loan.

Permit Holder Drift Dillingham 2 was able to buy a permit with help from family.

"My parents cosigned the loan, put up their permit and boat as collateral. I paid the closing costs." Permit Holder Drift Gillnet Dillingham 2

This suggests that it is difficult for most young people to buy a permit. The Permit Loan Program targets crewmembers, especially young people, but young people are the riskiest age group because they have lower personal wealth than other age groups, lack of knowledge of government loan programs or have bad credit. The Permit Loan Program targets young people by lowering these barriers, yet relatively few young people participate in this program.

4.3. Bristol Bay residents' interest in buying permits

To understand if there is long term interest in the fishery, it is important to understand whether residents are interested in buying a permit. If residents are not interested in buying a permit, this could explain why local permit ownership is in decline.

While 35.8% of respondents said that they are interested in buying permit, 15.6% of respondents said permits are too expensive. Many people already own a permit or they are elderly and looking to retire, so 13.8% of respondents said they are not interested in buying a permit.

Few people said they are inheriting a permit. Interestingly, the traditional method of gifting a permit to a family member still exists, but in a different form. Some people mention they are pooling their family's resources to buy a permit to benefit the entire family. It is likely these people are permit holders who will use their permit as collateral to help a family member buy a permit. Despite changes in how people will likely acquire permits in the future, family ties are still very important for people to acquire a permit.

One theory Knapp proposed about why people are not buying permits is they face language and cultural barriers. It is possible that people who involve their family in their permit purchase face lower language and cultural barriers because they have more resources that are familiar and available to them.

4.4. What would make you more interested to buy a permit?

In a follow up question, people were asked what would make them more interested to buy a permit. This gauged how serious each person was about buying a permit and the factors a person considered when they are thinking of buying a permit.

In their responses, some crewmembers said they would like to buy a permit if the price of fish continues to increase.

"Mainly just the increasing fish prices. This season was a perfect example. The average catch was way lower than normal, but since we are not fishing for 40 cents a pound anymore, people still made money." Crewmember Drift Gillnet Dillingham 1

Permit prices fluctuate so wildly so many crewmembers do not think that the risk is worth the reward to buy a permit.

"The purchase price was about \$160,000 for the permit. The overinflated price for permit has kept me at bay but I have bought

boats. Suddenly you could lose \$50,000 and you have to make loan payments still. Kind of like real estate. I'd buy a permit if prices dropped and the terms are right." Crewmember, Drift Gillnet Togiak 3

As Permit Holders Drift Gillnet New Stuyahok 7 and 11 state, it is hard for many villagers to afford a permit. The cost of living in the region is so high that it makes it hard to save for a down payment.

"Sounds like a good idea, but without a job, it's hard to pay the loan." Permit Holder Drift Gillnet New Stuyahok 7

"I have been thinking about that but at the same time, the down payment you need to build that up. With everything costing so much, boat repairs, transportation repairs, high cost of living, home expenses are getting so high it is hard to keep your bank account enough to get a down payment to qualify for a loan." Permit Holder Drift Gillnet New Stuyahok 11

One theory Knapp proposes is that local residents have lower personal wealth than non-residents. These responses indicate Bristol Bay watershed residents do not have a lot of money, a job or assets to buy a permit. Furthermore, people are not willing to take the risk of buying a permit when the permit prices fluctuate so wildly.

4.5. How would you finance this permit purchase?

This question seeks to understand all the different financial options people consider when buying a permit. Langdon and Knapp hypothesize that rural Alaskans are less likely to participate in loan programs because they live in isolated communities, far from capital and loan centers.

To understand why few people have bought a permit, it is important to understand the level of their financial acumen. A person is likely to take out a loan to buy a permit. Inexperience and discomfort with loans may be important reasons why few people have taken out a loan to buy a permit.

People who indicated an interest in buying a permit were asked how they would finance this purchase. 39.8% of people responded they would use a bank loan and 22.9% of people said they would use the Permit Loan Program.

Permit Holder Aleknagik Drift Gillnet 1 describes how she would buy another permit.

"I would get a down payment together with dividends or borrow a down payment if I could use inheritance money. My dad left me silver coins and I just sold some of them. I could put the money together for the down payment and I would go to Alaska Division of Investments and I already have one of those. I went through them before for my other permit. They were flexible. I would have BBEDC help me with the interest payments." Permit Holder Aleknagik Drift Gillnet 1/Retired Permit Holder Aleknagik 1

Not everyone wants to take out a loan. Some people indicate that they want to stay away from loans and find a different method of buying a permit. Several people said that if their season is good, they would have enough cash to buy a permit.

"Depends on the fishing season but if it is a good season we could use cash. Most likely a bank loan. Right now we have a bank loan through CFAB for a boat. Of course in a good season, there would be few set net permits for sale." Permit Holder Set Gillnet Dillingham 2

"I would probably save up for it every year. \$5,000 every year to buy a permit if I get a job or something to put aside money. It

will eventually add up but it is kind of hard not to spend money." Permit Holder Set Gillnet Dillingham 6

These results suggest that most people recognize they will have to take out a bank loan to purchase a permit. Few people said they will have the cash to buy a permit. This suggests that people have a realistic outlook when they are thinking of buying a permit because in a region with high seasonal unemployment, it is unlikely people will have enough cash to buy a permit.

The interview results strongly suggest that people in Dillingham are the most comfortable taking out loans. 78.1% said they are comfortable taking out a bank loan. Dillingham is an economic hub and is more urban and modern than the surrounding villages. 50% of the people in Togiak are comfortable with the loan process. People in Manokotak and New Stuyahok are not comfortable taking out a loan. 37.5% of people in Manokotak and 33.3% of people in New Stuyahok said they are comfortable taking out a bank loan.

People in New Stuyahok and Manokotak had the largest percentage of respondents who had never taken out a loan before. 52.6% of people in New Stuyahok and 75% of people in Manokotak have taken out a loan before. Residents in Dillingham are much more likely to have taken out a loan before. 87.9% of people in Dillingham had experience taking out a loan. People in Dillingham are more likely to own their own house and car. People who have taken out a loan before were the most likely to take out another loan.

Of the people who have taken out a bank loan before, many people are not comfortable in taking out another bank loan. 45.5% of people who had taken out a loan said they are not comfortable taking out another bank loan in the future. 83.3% of people in Togiak and 66.7% of people in Manokotak said they did not want to take out another bank loan. In Dillingham, 57.1% of people said they are comfortable taking out a bank loan.

These results demonstrate that people who live in rural villages are less likely to be comfortable taking out a loan than someone who lives in Dillingham. While Dillingham is not a large loan center, Wells Fargo operates a branch that serves most of the region. People from the surrounding villages must fly to Dillingham to visit the bank.

However, many permit holders with loans experienced financial difficulties when the price of salmon collapsed in 2001. For many, it was difficult to make loan payments and their permit had lost so much value that it did not cover the remaining loan amount.

"No, because I did not like the way I had to keep paying [the monthly loan payments]. It gets kinda scary when you cannot make payments on time." Permit Holder Drift Gillnet Clark's Point 1

"There was a time just after the crash of the price, it was challenging to make payments but we were able to make the payments and pay them off in time." Permit Holder Drift Gillnet Dillingham 7

In New Stuyahok, Manokotak and Togiak fishing is the sole source of employment for many people, yet many people are reluctant to take out a bank loan. Many of these respondents are interested in buying a permit so they may consider a loan in the future.

"No, not really. Too much hassle [to take a loan out to buy a permit]." Drift Permit Holder New Stuyahok 5

The implications for increasing local permit ownership are 81.9% of all respondents said they would finance a permit purchase with a bank loan, but only 60.2% said they are

comfortable taking out a bank loan and only 69.8% had taken out a bank loan. This suggests that many people are hesitant to participate in loan programs.

4.6. Do you have another job?

The remoteness and small population make the cost of living is very high in Bristol Bay and fishing is an inherently unstable industry. It is risky to rely solely on fishing income. The interview results indicate that most people who live in Dillingham have another full time job. 81.8% of people have a part time job to supplement their income. Many people in Manokotak, New Stuyahok and Togiak do not have a second full time job. 50% of people in Manokotak, 35% of people in New Stuyahok and 50% of people in Togiak have at least a part time job.

There are far more jobs in Dillingham than in the other communities. The interview results suggest that most people want work full time to supplement their fishing income. There are not enough jobs in the other 3 communities.

"If there are jobs available I could work anywhere. Right now I am not working. I am watching my younger kids." Permit Holder Set Gillnet Manokotak 5

People who inherit their permit have lower fixed costs so it may be possible to not have a supplemental non-fishing job. However, people who bought a permit with a loan have higher fixed costs and are much more likely to require a second non-fishing job.

"No, we are subsistence users with the minimal amount of income... Subsistence way of life [sic]." BBEDC 7/Permit Holder Set Gillnet Togiak 6

"When we had the disasters and the 40 cents a pound, I could not afford to be in the fishery and sustain it all winter. I have been working all winter and taking 3 weeks off for fishing." Permit Holder Drift Gillnet Aleknagik 3

The implications for increasing local permit ownership are people who have non-fishing income are more likely to be able to buy a permit or retain their permit. Local permit loss has been severe in Togiak, New Stuyahok and Manokotak, places with high unemployment. None of the respondents in New Stuyahok or Manokotak had purchased a permit and were the least likely to have experience with loans.

The interview results suggest that people in Dillingham and Togiak are more likely to think they need a second source of income, but from the previous question, they are more likely to have a job than residents in Manokotak and New Stuyahok.

"If you are average fishermen, you cannot 100% depend on just salmon for your yearly income. For the average fishermen, you just about have to work... Even some who do better than average have to work to pay for the expenses you incur during the fishery, you take out the taxes and pay the crewmembers, you are left to close about an average of minimum wages to compare with the rest of Alaska. I would be fooling myself if I lived off of fishing alone." Permit Holder Drift Gillnet Dillingham 7

Lower personal wealth is one theory that Knapp proposed. As results indicate, many people struggle to find jobs and depend heavily on traditional subsistence foods to make up the difference.

4.7. How has your life changed since Togiak Seafoods opened?

As local permit ownership has declined in the region and generational knowledge has been lost, interest in the fishery has declined in many communities. Togiak is a notable exception. In

2009, the Togiak Traditional Council partnered with Copper River Seafoods to open a new processor, Togiak Seafoods. Togiak Traditional Council is the only village council to partly own a seafood processor in Bristol Bay. This new plant has generated renewed optimism about the fishery in Togiak. One of its main objectives is to provide jobs to residents and to boost the quality and price of fish.

The Togiak District, one of five commercial fishing districts in Bristol Bay, is unique to Bristol Bay because during the sockeye salmon fishery, it is a semi-exclusive fishery district. Nearly all of the fishermen are residents of Togiak or Twin Hills, the two towns in the Togiak District. The fishery has limited access because the Togiak sockeye fishery is much smaller than the rest of the districts.

Since Togiak Seafoods opened, residents are becoming more interested in fishing again. 40% of people said they have noticed prices increasing and 13.5% of people said they have noticed better service than they had at Togiak Fisheries Inc. (the other seafood processor in the Togiak District). Many people talked about this topic cautiously because in previous years, Togiak Fisheries Inc. had a monopoly and could retaliate by refusing to buy their fish.

Togiak Seafoods has really changed in the fishery in the Togiak District. Togiak Seafoods paid the higher salmon prices than any other processor in Bristol Bay, challenging other processors to compete with them.

“Togiak Seafoods has made them realize with quality that we can make more money and get bigger and better boats maybe and it opens up their eyes to another permit and a bigger boat. We were stuck in the mentality of just getting enough for winter... I think it will eventually turn to why should I fish in a skiff when I fish in a bigger boat? The operation improves.” Permit Holder Drift Gillnet Togiak 8

Of the 3 rural communities, people in Togiak are the most actively engaged in the fishery. Permit Holder Drift Gillnet Togiak 8 and other fishery participants talked excitedly about how Togiak Seafoods injects optimism, revenue and hope into the fishery. People who had not fished in years are interested in participating in the fishery again. Aside from Dillingham and Naknek, the only other participant in the Permit Loan Program is from Togiak. This suggests that Togiak Seafoods is helping people to overcome the financial difficulties that prevent them from buying a permit. BBEDC employs a village liaison in each of their member communities to assist people who are interested in the Permit Loan Program.

4.8. Bristol Bay economic development corporation's permit loan program

Despite its generous terms, the Permit Loan Program is failing to stop the decline in the number of locally owned permits. The interviews suggest that many people are interested in buying a permit, yet few people know much about the Permit Loan Program. Young people are the least likely group to know about the program, yet the program targets them. Despite not knowing much about the Permit Loan Program, nearly everyone who resides in a BBEDC village (located within 50 miles of the Bering Sea) trusts and respects BBEDC and has benefits from one or more of their programs. This suggests that people are not participating in the program based on their feelings towards BBEDC.

Rather than thriving, people face a lot of hardship to remain in the fishery. In response to their low participation rate, BBEDC suggests that many watershed residents cannot qualify for a bank loan because they have poor credit or owe child support. These people are the riskiest credit group. Recognizing this hurdle, they

are changing the program to tailor it to each participant. However, it is too early to tell if this will be enough to increase participation in the program.

5. Discussion

Fishing knowledge and the culture surrounding it remain strong in Bristol Bay. This suggests that people retain their permit for non-economic reasons. People who fish have friends and family who fish too. Most fishing knowledge and permits are still passed down through families and many of these families are very proud to be part of the fishery. They tend to view fishing as a lifestyle choice because the whole family participates in the fishery. However, declining local permit ownership means that fewer people have the opportunity to teach their children how to fish and provide a means to assist their children in buying a permit.

Langdon predicted that without access to financial capital that local permit ownership would continue to decline. Access to financial capital remains a key barrier to buying a permit for most people. People describe big obstacles that cannot easily be resolved including owning few assets that could be put up as collateral, bad or little credit, or few savings for a down payment. Many people continue to live in a largely cashless society in isolated communities.

The Permit Loan Program provides financial capital to Bristol Bay residents. The program provides up to 50% of the price of a permit and requires a smaller down payment than the State commercial fishery loan program. Few people, except in Dillingham have bought a permit. This suggests that even residents of a small, urban hub can out-compete smaller communities in the region, but that non-local residents can out-compete all Bristol Bay residents. Non-local residents continue to use the State commercial fishing loan program to buy permits from Bristol Bay residents.

People do not explicitly talk about non-financial factors, but the fact that Dillingham residents have bought permits suggests that these non-financial factors limit people's access to financial capital. Knapp suggests that these other non-financial factors include distance from loan centers, lack of knowledge about government programs and language and cultural barriers. Dillingham residents live near a loan center and BBEDC and are more comfortable taking out loans than residents in neighboring communities.

Successful processor partnerships can provide much needed resources to the community and provide a pathway for people to buy a permit. Togiak Seafoods has laid out a successful profitable model that offers high ex-vessel prices, local ownership and local processor jobs. Through these increasingly lucrative economic opportunities, people have more access to financial capital. Many Togiak residents are working hard to qualify for the Permit Loan Program. This suggests that a suite of programs best serve the residents who want to buy a permit.

6. Conclusions

There is no single reason why local permit ownership in Bristol Bay is declining, but of the theories Knapp proposed, bad credit, lack of knowledge of government loan programs and lower personal wealth than non-residents were found to be the biggest factors preventing many people from buying a permit. The interviews provide additional insights about barriers to permit ownership including a lack of interest in the fishery and weariness about fluctuating permit prices. However, higher fish prices are renewing interest in permit ownership and the Permit Loan Program has

become more flexible in tailoring their program to each participant.

The fact that local permit ownership has continued to trend downwards suggests that there are no easy solutions to the problem of local permit loss. However, it is important to keep trying to find ways to help local people retain and buy permits. Keeping locals involved in the fishery keeps communities economically and socially healthy, gives them access to their local resources and strengthens their voice in managing their local resources.

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