STATE OF ALASKA
DEPARTMENT OF
COMMERCE
COMMUNITY AND
ECONOMIC DEVELOPMENT

Sean Parnell, Governor
Emil Notti, Commissioner
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MEMORANDUM

DATE: November 24, 2009

TO: Denby Lloyd; Commissioner, ADFG
Vince Webster; Chairman, ABOF

FROM: Casey Campbell; Economist, OED

RE: Request for information: Bristol Bay proposal; 32-foot vessel limit

The following memo is in response to your letter of October 21, 2009 in which you requested that the Department of Commerce Community and Economic Development (DCCED) provide economic information relevant to the deliberations of the Alaska Board of Fisheries on Proposal 15, which seeks to eliminate the current 32 foot vessel length limit in the Bristol Bay drift gillnet fishery. This memo accompanies the memo submitted by the Commercial Fisheries Entry Commission providing the board detailed statistics related to the fishery.

Staff examined all available materials on this proposal and compiled an analysis of relevant available information about the drift gillnet fishery in Bristol Bay, resident verses non -resident participation, average vessel earnings, average vessel length and average earning by locals, non-local Alaskans and non-Alaskans. In addition, we consulted vessel builders, chilling technology specialists, and commercial fishermen in order to get a comprehensive picture of the current fishery and the probable effect of the proposal. Given the limited time and information available to us and the uncertainties related to individual responses to regulatory changes, a complete socio-economic analysis was not possible or practical.

Description of Proposal

Proposal 15 was previously considered by the board during the December 2006 meeting. The proposal was tabled to the board's Salmon Industry Restructuring Committee for additional review and scheduled for the December 2009 Bristol Bay Finfish meeting for possible adoption. The proposal seeks to amend 5 AAC 06.341, which limits the size of vessels in the Bristol Bay fishery to no more than 32 feet in overall length.

The current regulation is as follows:

5 AAC 06.341. Vessel specifications and operations

(a) No vessel registered for salmon net fishing may be more than 32 feet in overall length. An anchor roller may not extend more than eight inches beyond the 32-foot overall length, and any portion that extends beyond the 32-foot overall length may not be more than eight inches in width or height.

(b) For the purposes of this section,

(1) "anchor roller" means a device used solely in aid of deploying and retrieving anchor gear, and does not provide any additional flotation, planing surface, or structural support to the vessel;

(2) "fish drop-out basket" means a device used solely to prevent the loss of fish from a gillnet after the fish leaves the water and before it is brought on board the vessel; a "fish drop-out basket" does not provide any additional flotation, planing surface, or structural support to the vessel;

(3) "gillnet roller" means a device used solely in aid of deploying and retrieving drift gillnet gear; a "gillnet roller" does not provide any additional flotation or planing surface to the vessel;

(4) "outdrive" means part of the propulsion system of a vessel used for either steering or thrust; an "outdrive" does not provide any additional flotation or planing surface to the vessel;

(5) "outdrive guard" means a device of skeletal construction used solely to protect the outdrive unit of a vessel; an "outdrive guard" does not provide any additional flotation or planing surface and is not used for any other purpose such as a bench, platform, or storage area;
(6) "overall length" means the straight-line measurement between the extremities of the vessel, but does not include fish drop-out baskets, anchor rollers, gillnet rollers, trim tabs, outdrives, or outdrive guards;
(7) "trim tabs" means an extension of the bottom of a vessel, at the transom, which is no more than 18 inches long at its longest point; "trim tabs" do not provide any increased flotation, and their sole function is to provide trim to a vessel while underway.

If the board were to vote in favor of Proposal 15, the regulation would be revised to remove the 32 foot vessel length limit in the drift gillnet fishery, essentially allowing boats of any size to prosecute the fishery.

History of the Bristol Bay 32 Foot Limit

The documented history of commercial salmon fishing in Bristol Bay begins in the 1880s, when the fishery was prosecuted with sailboats. Prior to statehood, the fishery was managed by the federal government, Department of Interior, which prohibited the use of motor-propelled vessels. When the Department of Interior repealed the ban on use of motors, they originally did so with the caveat that vessels must be less than 32 feet in length. At the time, this was primarily a method to control the efficiency of the harvesting fleet to provide for conservation. After statehood, when management of the fishery was transferred to the State of Alaska, the limit was retained as a way to limit harvesting capacity.

With the passage of the Limited Entry Act in 1973 and the corresponding constitutional amendment, the State of Alaska gained the ability to limit the number of participants in the fishery. Along with the ability to limit the number of participants, fishery managers limit harvest through time and area closures and limits on gear, leading some to argue that the 32 foot limit is obsolete and should be repealed. However, the fishery has been managed under this regime nearly 60 years and fishermen have made adaptations and investments based on the current structure. For this reason some advocate that the limit be retained.

Similar proposals to abolish the limit have been considered by the board in the past, resulting in the continuation of the limit. In 1981, board members were concerned about new vessels being built for the fishery and their impact on overcapitalization. The board's justification for continuing the length limit was "to promote stability and predictability in the fishery".

Description of the Fishery – Volume, Value, and Participation

The Bristol Bay salmon fishery is substantial in both volume and value. Catch volumes have varied through the years, but have averaged over 26 million fish over the past twenty years. Catches have been steadily increasing since the poor returns in the early 2000s. 2009 catches totaled over 32 million fish. The harvest is dominated by sockeye salmon, which make up all but approximately 1 million of the fish harvested on an annual basis. The average weight of a Bristol Bay sockeye is 5.9 pounds, meaning the total sockeye volume in the fishery approached 183 million pounds in 2009. (ADF&G management report, 2008 and ADF&G season summary 2009)

The Bristol Bay sockeye run timing is extremely compressed. In 2009, 83 percent of the total harvest was caught in an 18 day period. The majority of this harvested is taken with drift gillnet gear. The 1998-2008 average sockeye catch percentage is 83 percent drift, 17 percent set net. According to ADF&G estimates, the total ex-vessel value of the 2009 harvest was more than 129 million dollars. This figure is an estimate, and does not include price adjustments, bonuses, or refrigeration differentials.

The Bristol Bay salmon fishery is an important economic driver in the region where it occurs. The fishery has been the single largest source of private sector income for the 5,275 residents in the Dillingham Census Area, the Bristol Bay Borough and the Lake and Peninsula Borough, which together comprise the Bristol Bay region. In 2008, there were a total of 1,863 drift permit holders. Including crewmembers, an average of over 5,000 people are estimated to have been directly involved in fish harvesting. Annual processing capacity in the Bay has ranged from 60 to 400 million pounds of

fish and processors employ over 2,000 people during peak seasons. The salmon fishery is the region's main basic sector industry bringing new money into the economy.

Participation in the fishery has varied over time. In 2008, approximately 78 percent of available permits were active in the fishery, 1,469 of 1,863 permit holders fished. Of these, 706 were residents and 763 were non-residents. This is a shift from the late 1980s and early to mid 1990s, when nearly 100 percent of eligible permits were active in the fishery. During this time period, residents in the fishery outnumbered non-residents. Non-residents were the majority of active permits fishing for the first time beginning in 1999. Between 2002 and 2008, non-resident participation has exceeded resident participation every year. (Source: CFEC data).

Both volumes and economic values of the Bristol Bay fishery have varied over time, as have permit values. Prior to statehood, inshore catches in Bristol Bay averaged just 6.7 million sockeye annually. Aggressive in-season management and development of escapement targets in the years following statehood, along with reduced high-seas interceptions and favorable climatic conditions led to a rebuilding that increased fishery volumes in the late 1970s and early 1980s. In addition, new investments, market demand, and product forms increased the value.

In the late 1980s sockeye prices rose to over $2.00 a pound (nominal) and the value of the Bristol Bay catch neared $200 million. The average earnings of a drift permit holder approached $100,000. As a result, the value of Bristol Bay drift permits climbed to nearly a quarter of a million dollars. The increased earnings potential in the fishery resulted in additional investments in harvesting capacity. Some permit holders, modified their vessel to increase catching and holding capacity. Some vessels in the fishery were wider and faster, with more horsepower, better electronics, and crew capacity. The fishery was prosecuted more aggressively.

Volumes fell drastically in 1997, when the salmon harvest totaled only 12.7 million fish. Runs faltered through 2003 despite slightly stronger years in 1999 and 2000. Although catches in these years were 26 and 21 million fish respectively, low prices kept the total value of the fishery down, reaching a low of $32 million in 2002. As runs and prices faltered, Bristol Bay drift permit prices fell to less than $20,000.

Beginning with a strong run in 2004, catches have rebounded and have exceeded 26 million fish annually for six years. In that time, a number of factors have contributed to a slow rise in prices, including a shift in product forms and a recovery of Bristol Bay sockeye in the world market. In 2008, 1,469 permit holders harvested an average of almost 95,000 pounds for average gross earnings of just over $68,000. Earnings in the fishery vary dramatically, with the lowest quartile (43 percent of permit holders) earning approximately $37,000 and the highest (14 percent of permit holders) earning $139,000. Non-residents average earnings are significantly more than residents in the fishery. Non-residents averaged over $80,000, while residents averaged only $55,000 in 2008. (See CFEC memo) The Commercial Fisheries Entry Commission currently values a Bristol Bay drift permit at $78,300. (See CFEC Memo).

CFEC further differentiates between Alaskans who are "local" residing in one of 34 villages in the Bristol Bay area and "non-locals" who are Alaskan residents, but reside outside the Bristol Bay area. According to CFEC data, the number of drift permits held by locals at the end of 2008 was 391, or 21 percent of the total permits issued for the fishery. Alaskan non-locals held 480 permits, or 25 percent, while non-residents held 988 permits, 53 percent of the total. (Note: .2 percent of permits were temporarily held by DCCED or CFAB as a result of foreclosures.) This contrasts with the distribution of permits at initial issuance in 1975, when locals held 713 permits or 38 percent, Alaska non-locals held 416 permits or 22 percent, and Nonresidents held 746 permits or 39 percent. While the percentage held by Alaska non-local is similar, in total a net transfer of permits from Bristol Bay residents to non-resident participants in the fisheries has occurred over time.

Drift Gillnet Vessel Length in Alaskan Fisheries

In general, drift gillnet fisheries lend themselves to a certain size of vessel that is maneuverable and relatively efficient. In other areas of the state where vessel length is unlimited, vessels tend to be of a similar size to Bristol Bay boats. For example, vessels participating in the Prince William Sound drift gillnet fishery range from 16-43 feet, but the vast majority (87 percent) of vessels fall into the 25-32 foot range. Like Bristol Bay vessels, these boats are primarily designed for gillnet fishing, with only seven percent of vessels registered to participate in long line fisheries and 1 percent in other fisheries. Similarly, four percent of Bristol Bay drift boats participate in long line fisheries while two percent participate in other

gillnet fisheries and 1 percent participate in seine fisheries. In Southeast Alaska, where vessels tend to be used in multiple fisheries, the average length of a drift vessel is slightly larger, with 72 percent of vessels falling into the 33-45 foot length category. This is likely due to the need for efficient participation as combination vessels rather than an ideal size for drift gillnetting. In Alaska Peninsula and Cook Inlet districts, where diversification is also common, vessels again tend to be larger, with the majority of vessels falling into the 33-45 foot category.

2007 Data	**Prince William Sound**	**Southeast**	**AK Peninsula**	**Cook Inlet**	**Bristol Bay**
Vessel Length	16-43	19-48	20-58	18-49	16-32
Mean Length	29	36	38	35	31
Highest percentage size range	(87%) 25-32	(72%) 33-45	(68%) 33-45	(66%) 33-45	(95%) 25-32
Vessel utilization of other gear type	(7%) Long line (1%) all other	(30%) Long line (14%) Pot (8%) Troll (6%) Dive	(16%) Long line (7%) Other Gillnet (4%) Jig (2%) Seine	(17%) Long line (1%) Jig	(4%) Long line (2%) Other Gillnet (1%) Seine

Source: "Vessel Lengths and Fishing Diversification Among Alaska Salmon Drift Gillnet Vessels, 1978-2007". CFEC Report 08-4N. May, 2008

Variations in drift gillnet vessel sizes across areas of the state is likely also partially attributable to bathymetry. In both Bristol Bay and Prince William Sound, it is common for vessel to operate in shallow waters on river flats, while in other areas vessels generally operate in marine waters and can be deeper and larger. The bathymetry of Bristol Bay itself requires shallow draft vessels that can maneuver in shallow areas. However, catch volumes in Bristol Bay are larger near the peak of the run than those commonly experienced in some other areas.

In their report "Vessel Lengths and Fishing Diversification Among Alaska Salmon Drift Gillnet Vessels, 1978-2007" CFEC noted a trend towards larger vessels in drift gillnet fisheries. "In all areas, there was a marked decrease in the percentage of boats in the lowest length categories, with a corresponding increase in larger vessels. For example, in Southeast Alaska, the percentage of boats in the 33-45 foot class steadily increased from 49 percent to 72 percent of the fleet over the 1978-2007 period. Cook Inlet and the Alaska Peninsula also exhibit marked changes away from smaller boats in the 25-32 foot class to boats from 33 to 45 feet. In Prince William Sound, where vessels tend to be smaller, the increase came in the 25-32 foot class, from 52 percent to 87 percent, with a corresponding decrease in boats less than 25 feet, which were formerly quite numerous. Bristol Bay vessels, with a regulation capping the maximum vessel length at 32 feet, showed little change, other than a small decrease in boats under 25 feet. Source: "Vessel Lengths and Fishing Diversification Among Alaska Salmon Drift Gillnet Vessels, 1978-2007". CFEC Report 08-4N. May, 2008. This trend towards larger vessels has not manifested in the Bristol Bay due to the regulatory restriction, but this general trend information may imply that a similar shift would occur in Bristol Bay if the restriction on vessel length were lifted.

Data compiled by CFEC breaking harvest volumes by horsepower indicates 51 percent of the 2008 harvest was by vessels with horsepower ratings between 200-399. These vessels comprise 49 percent of the fleet. When analyzing the 2008 data based on average harvest per vessel, the highest per vessel harvest is among vessels with over 800 horsepower, comprising of three percent of the fleet. According to this data as vessel horsepower increases, average harvest per vessel increases.

Horsepower vs. Harvest, 1999-2008

	50-200			200-399			400-599			600-799			Over 800		
Year	Vessels	Total Lbs (000's)	*AVG Per Vessel*	Vessels	Total Lbs (000's)	*AVG Per Vessel*	Vessels	Total Lbs (000's)	*AVG Per Vessel*	Vessels	Total Lbs (000's)	*AVG Per Vessel*	Vessels	Total Lbs (000's)	*AVG Per Vessel*
1999	236	10,797	*45,751*	1,068	62,800	*58,802*	331	22,929	*69,271*	134	10,151	*75,756*	56	4,831	*86,273*
2000	214	10,098	*47,186*	1,053	57,879	*54,966*	337	21,256	*63,074*	138	9,529	*69,050*	57	4,123	*72,331*
2001	179	7,410	*41,397*	900	43,635	*48,483*	285	16,785	*58,893*	117	7,695	*65,767*	48	3,723	*77,555*
2002	131	4,686	*35,773*	661	28,035	*42,413*	226	12,249	*54,198*	86	5,793	*67,360*	38	2,603	*68,505*
2003	145	5,714	*39,409*	795	41,155	*51,768*	264	17,694	*67,022*	111	8,200	*73,878*	51	4,406	*86,390*
2004	128	8,235	*64,332*	780	68,205	*87,443*	271	31,108	*114,789*	105	14,193	*135,173*	50	7,427	*148,531*
2005	138	9,536	*69,102*	773	70,646	*91,391*	283	31,201	*110,250*	100	14,450	*144,497*	50	7,121	*142,418*
2006	140	8,942	*63,873*	815	76,182	*93,474*	301	38,227	*127,001*	112	17,424	*155,572*	59	10,496	*177,906*
2007	111	8,095	*72,927*	788	78,207	*99,247*	293	37,545	*128,140*	116	17,422	*150,187*	57	9,568	*167,860*
2008	107	7,372	*68,898*	793	70,633	*89,071*	302	34,011	*112,620*	121	15,725	*129,957*	54	8,434	*156,177*

Source: CFEC, 2008 data preliminary.

From this data, it is possible to make some assumptions about the likely behavior of fishery participants if the 32 foot length limit were repealed. The general trend towards larger vessels in Alaskan drift gillnet fisheries and differential catch data from vessel with higher horsepower suggest that larger, high powered vessels may provide an operational advantage in drift gillnet fisheries that would likely be pursued by some Bristol Bay permit holders if that option were available.

Bristol Bay generally sees larger daily vessel harvests and more compressed run timing than other areas, indicating that Bristol Bay fishermen might see benefits in larger vessels with increased harvesting and holding capacity. However, both the need for efficient operation in a drift gillnet fishery and the characteristics of operating in Bristol Bay itself suggest that while some expansion is possible, it is unlikely that a large number of participants would build or modify vessels that greatly exceed the current limit. It is likely that some participants would build or modify vessels to be somewhat larger than the current maximum size in the fishery, and it is also likely that those vessels would still maintain an average length in the 35-38 foot range.

Arguments for Proposal

Proponents of the proposal have made a number of arguments for its adoption: the limit is unnecessary given other harvest controls, safety would be improved if vessels were larger, larger vessels would allow increased economic efficiency, and quality could be improved by harvesting with larger vessels, and larger vessels would allow onboard processing.

Necessity of the Limit:
As noted above, many other controls on harvesting capacity exist in the Bristol Bay fishery including; limited entry, time and area closures, and gear restrictions. Given this, it is clear that the Bristol Bay fishery could be prosecuted to allow for sustained yields in the absence of the 32 foot limit. Arguments for retaining the limit primarily focus on distribution of benefits between participants, not on any biological or conservation purpose for the limit. The Alaska Department of Fish and Game, while remaining neutral on this allocative proposal, has not indicated that they feel the 32 foot limits is necessary for continued conservation of the resource.

Safety Implications:
Proponents of Proposal 15 make the case that the fishery would be safer to prosecute in the absence of the 32 foot limit. Certain vessels that have been modified to increase volume while remaining within the 32 foot maximum length overall may be of less than ideal configurations, and larger vessels may be more seaworthy than smaller vessels under certain

conditions. It is unclear what the impact of having substantially larger, less maneuverable vessels might be in a fast-paced fishery operated at close quarters, where vessel collisions are common.

Economic Efficiency:
It is unknown to what extent a larger vessel might increase economic efficiency. While Bristol Bay fishermen do lose some fishing time due to the need to deliver, the amount of time lost to delivering varies depending on vessel size, processor location, open schedules, district fished and tender availability. However, additional capacity might allow more fishing time and thus increased harvests for operators of larger vessels. Ultimately design and horsepower, will decide the economic efficiency of a vessel. One boat builder indicated that longer vessels could be more efficient and may need a lower horsepower ratio to achieve the same speed and hold capacity as current vessels which require high horsepower ratios to achieve a desired speed. It is unclear how this may translate into the overall economics of the fishery as larger boats may have higher operating costs.

It should also be considered that the cost of modifying a current vessel could be quite high. Cost estimates for lengthening a current vessel are difficult to make as there are too many variables to account for. One estimate of the labor and aluminum needed to add four feet to an aluminum vessels ranged between $20,000 and $25,000. The cost of new construction ranges between $350,000 to $1 million depending on size, materials and configuration.

Given that there are substantial costs involved, it is clear that the participant would have to expect greatly increased harvests as a result of the investment to justify the expenditure. Vessels are available elsewhere that could be brought into the fishery if the limit were lifted. However, a review of current vessel listings indicates that these vessels are generally not significantly more desirable than the currently available Bristol Bay vessels either in price or suitability for the fishery. Currently, used commercial fishing vessels between 38 and 45 feet in length cost between $65,000 and $200,000 depending on size, material, and capacity. However, many of these vessels only offer minimal carrying capacity improvements over some of the larger vessels currently operating in the fishery.

Improved Quality:
Proponents of Proposal 15 argue that larger vessels can increase quality therefore increasing value by installing RSW systems and processing product at-sea. Since 2003, the price of all salmon species across the state has increased dramatically. The Statewide average ex-vessel price increased 289 percent for pink salmon, 247 percent for Chinook, 211 percent for Chum, 156 percent for Coho while Sockeye only increased 35 percent. One function is that Bristol Bay is the dominate producer of sockeye salmon, accounting for 71 percent of the total statewide harvest in 2008, and fish quality is not comparable to fisheries in other areas. For example, in 2007 fishermen in Southeast received an average ex-vessel price of $1.14 per pound for sockeye. Prince William Sound fishermen received $1.56 per pound for sockeye while Bristol Bay fishermen received $0.67 per pound. Processing companies range in prices depending on bonus payments, some pay a production bonus while others pay quality bonuses for bleeding and chilling. One company focused on quality pays its fleet an average price of roughly $0.90 per pound, while it is estimated that other companies pay an average of $0.70 per pound.

Current information indicates changes in fishing practices and equipment are leading to increases in quality and value without changes in vessel size at this time. Staff found that there are multiple RSW system manufactures currently building systems for Bristol Bay vessels. Recently one refrigeration company has developed a specially designed 7.5 ton RSW system built to fit inside smaller boats in Bristol Bay. Up to this point it has been viewed that smaller vessels in the fishery do not have the room to accommodate these systems. However, currently a pilot project is underway to show the system will fit and work inside a 32-foot Rawson. The same company has also produced a 1 ton system which was installed in a setnet skiff in Bristol Bay. In 2008, 18 percent of the vessels in Bristol Bay had refrigerated holds, a 100 percent increase from 1995 when nine percent of the vessels had refrigerated holds. Between 2007 and 2008 14 more vessels reported refrigerated holds, a six percent increase. (See CFEC memo)

In general, ice, slush bags, and chilling are becoming more prevalent in the Bristol Bay fishery as processors move to quality and handling requirements along with paying chilling bonuses. One processor recently announced that they will dedicate tenders to chilled fish. These changes in the fishery are taking place due to market pressure to produce higher quality fish and economic incentives from processors. Allowing larger vessels can make installing an onboard chilling

system more practical while providing adequate holding capacity. One issue arising with vessel changes focused on quality is lost holding capacity.

Onboard Processing:
The condensed run of Bristol Bay lends itself to a high paced, highly competitive fishery focused on volume. In 2009, 83 percent of the total harvest was caught in an 18 day period. This highly compressed run limits the ability of fishermen to process aboard their vessels. Fishing in the shoulder seasons could be an opportunity for innovative practices, such as processing on board, which may increase the value of the fish to the fishermen who participate. However, this may be possible even under the current regulatory regime. Many vessels in other salmon fisheries around the state process on board on similar sized vessels.

Arguments Against Proposal

Previously, when similar proposals have been discussed by the board, the current capitalization in the fishery has been an issue. Bristol Bay Fishery already highly capitalized and extremely competitive. Some sentiment exists that lifting the vessel length limit will encourage further capitalization in the fishery. Given the unpredictable volume of Bristol Bay harvests, encouraging additional capacity and capital investment may be unwise.

A primary argument against the proposal is that its adoption could disadvantage residents of the Bristol Bay watershed. Bristol Bay residents have significant economic dependence on commercial fishing and relatively few alterative employment opportunities. Participants in the fishery with high economic dependence on the fishery will be most impacted by changes to the fishery. According to the Department of Labor there is an average of 1,287 wage and salary jobs per month in the Bristol Bay Borough. Of these 238 or 18 percent are government jobs, the only basic sector jobs identified in the borough bringing new money into the economy. The rest of the identifiable jobs are in non-basic sectors like retail (55 jobs), transportation & warehousing (191 jobs), financial (16 jobs) and leisure & hospitality (76 jobs). [Reported figures do not add up to total due to unreported figures a result of data confidentiality restrictions.] In the Dillingham census area the employment picture is very similar. There is an average of 2,533 wage and salary jobs per month. Of those, 763 or 30 percent are with the government. Another seven jobs are related to mining, another basic sector, as well as 88 jobs in leisure and hospitality which typically serve the visitor industry. The rest of the jobs are in retail (190 jobs), transportation & warehousing (93 jobs), financial (93 jobs), professional & business services (12 jobs), education & health care (605 jobs) and other (40 jobs). [Reported figures do not add up to total due to unreported figures a result of data confidentiality restrictions.].

In 2006, the Department of Labor estimated that in Southwest Alaska (including Aleutian Island communities) 21 percent of the private sector employment comes from fish harvesting, compared to 9 percent in the Gulf Coast and Southeast region (Department of Labor "Alaska Economic Trends" December 2006). Also, in November 2007 "Alaska Economic Trends" article, Department of Labor indicates 45 percent of Alaskan fishermen also hold wage and salary jobs. These jobs are typically in natural resources & mining, construction, manufacturing, trade, transportation & utilities, information, financial, professional & business services, education & health services, leisure and hospitality, government and other services jobs.

Fishermen with the ability to spread economic risk, have access to financial capital and a business plan based on larger harvest volumes or increased per pound value, could potentially benefit form this regulatory change. Those that will be disadvantaged are those with smaller vessels competing for space in the same fishing area.

It is unknown how great of an advantage a larger vessel might prove to be in the Bristol Bay fishery. If larger vessels allow harvesters to increase harvest volume, than they will realize an advantage while smaller vessels are at a disadvantage as there is only a fixed amount of fish to be harvested by all participants. However, fishing capacity may continue to primarily be limited by gear rather than vessel size. A larger boat may allow fishermen to fish longer between deliveries, thus increasing the time their net can be in the water, theoretically increasing harvest volumes for those vessels. Management limitations on fishing time as well as potential limitation on deliveries by processors could partially or fully negate this potential advantage.

If the value of the Bristol Bay fishery in total increases as a result of larger vessels, communities, processors and the state will likely benefit. Any overall increase would have to come from quality-related value increases, as the fishery does not generally forgo significant volume as a result of insufficient harvesting capacity. It must also be noted that harvest volumes vary, which will also have an impact on the value of the fishery. The recent 10 year harvest average was roughly 23 million fish. Between 2001 and 2003 the average harvest volume was 14 million fish. Harvest in 2006, 2007 and 2008 have exceeded the 10 year average by between 7 and 8 million fish respectively.

Other Considerations

While DCCED staff has attempted to provide data and analysis that will be helpful to the board's deliberations, a great deal more will be learned from fishery participants at the meeting. The following topics are ones the study team feel would be valuable for the board to consider and discuss with those participating in the fishery:

- **Current changes in fishery activities aimed at increasing value/quality**- Currently, the Bristol Bay fishery is experiencing a shift towards increased chilling and quality programs. The board could consider how this proposal might impact that shift.
    - *RSW designed to operate on smaller vessels (systems installed on 32' Rawson and 25' setnet skiff)*
    - *Declines in RSW system prices*
    - *More ice available*
    - *Bleeding practices*
    - *RSW dedicated tenders*
    - *Price premium for chilled fish*
- **Quality**- The extrinsic quality of salmon, what happens to the fish after it is landed, are controlled by fishermen and processors, while the natural environment controls the intrinsic quality. The board may consider how this proposal will impact the extrinsic quality of the fish while keeping in mind the intrinsic qualities.
    - *Extrinsic quality*
    - *Intrinsic quality*
- **Adding Value**- One argument made by the proposals proponents is that vessel length changes has the potential to increase the value received for the Bristol Bay salmon resources by allowing increased quality and processing on-board. The board could gather additional information from the fishery participants about current quality and handling practices in Bristol Bay as well as potential opportunities for ion-board processing.
    - *Quality*
    - *Processing*
    - *Market perception*
- **Harvesting Practices–** Harvesting practices in Bristol Bay are significantly different in both volume and timing than other drift gillnet fisheries. The board could consider how these harvesting practices are likely to be affected should this proposal be adopted, as well as how these harvesting practices might advantage or disadvantage vessels of different sizes.
    - *Short harvest period*
    - *Small harvesting area*
    - *Volume focus*
    - *Shallow water*
- **Harvesting Capacity–** Many factors other than vessel size affect harvesting capacity. The board could consider other regulatory controls on harvesting capacity and how they might interact with the 32 foot limit.
    - *Net length*
    - *Vessel capacity*
    - *Equipment*
- **Safety**–The board could consider how lifting the length limit might affect both the seaworthiness of vessels in the fishery and the potential for collisions in a crowded area. Vessel operators could provide addition insight in this area.
    - *Sea Conditions*
    - *Collisions*
    - *Vessel Modifications*

- **Industry Stability**– The need for stability in the industry has been indentified as a potential reason to retain the limit. The board could consider how this proposal might affect investments by individuals as well as the overall capacity of the fleet, including whether fishermen would make additional capital investments to remain competitive if the proposal were to pass.
    - *Vessel Investments*
    - *Fleet Capacity*
- **Future Restructuring Proposal**– The board should consider how this proposal interacts with other restructuring proposals that are being considered at this meeting or may be submitted in the future.
    - *Permit stacking*
    - *Net length limits*
    - *Harvest boundaries*
- **Local Impacts**– While the immediate impacts on permit holders and vessel owners should be considered, the board could also consider ancillary impacts that changes in the overall value of the fishery or distribution of benefits in the fishery could have on crew, support services, local governments and overall economies.
    - *Participants*
    - *Support services*
    - *Taxes*
- **Fishery variables**– Many variables affect the overall profitability of the Bristol Bay fishery. The board could consider the impact of outside forces on the economics of the fishery when evaluating the impacts of this proposal.
    - *World seafood markets*
    - *U.S currency exchange rates*
    - *Fuel prices*
    - *Weather*
    - *Salmon ocean survival*
    - *Run size*
    - *Processor participation in Bristol Bay*
    - *Fishermen's opportunity cost*
    - *Harvesting participation*
    - *Farmed salmon production*
    - *Future development activity in the region*
    - *Financial markets*