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Taken together, those sections of Alaska's Constitution establish the basic framework for management of Alaska's fisheries. But the Constitution doesn't define what constitutes "maximum use," or "maximum benefit," or what "preferences" should be allowed among potential "beneficial uses." Those policy decisions are left to the legislature, the governor, appointed boards and state resource managers, and the courts – with the caveat that all laws, regulations and fisheries management actions must be consistent with the intent and parameters established in the Constitution.

Scope of Task Force Inquiry

The Task Force considered two main issues with regard to whether current state salmon fisheries management practices in Upper Cook Inlet satisfy the requirements of the Alaska Constitution. First, the Task Force examined whether existing management policies are effectively "conserving" the resource to enable current and future "beneficial uses" by Alaskans, especially as it relates to diminishing sockeye salmon returns in the Northern District. Because while there's disagreement about what constitutes "maximum benefit," "maximum use," or appropriate allocations of Cook Inlet salmon resources, there's no question that all of those deliberations are contingent upon the continued viability of the resource. There will be no "benefit" for any Alaskan if the stocks die out – regardless of whether the destruction is due to human or natural causes.

The second major constitutional issue the Task Force examined was whether current allocations are consistent with the "maximum benefit" and "maximum use" clauses of the

Constitution. Much of the testimony the Task Force received focused on those complex and nebulous socio-economic concepts.

Summary of Discussion

The policy question of fair allocation of Cook Inlet salmon resources among competing uses is a complex and highly contentious issue that state leaders and fisheries managers have grappled with for decades. In fact, a subcommittee of the Alaska Board of Fisheries (BOF) recently emphasized that point by stating:

"The Fishery management plans for salmon in Upper Cook Inlet (UCI) are, arguably, the most complex in the State (sic). This complexity has evolved over the years as the Board of Fisheries has struggled to balance the allocation needs and desires of various user groups. Over half of the State (sic) population resides within the UCI watershed. In most years, UCI is second only to Bristol Bay in terms of average commercial sockeye salmon harvests in the State (sic), and also produces significant runs of chinook salmon, with the notable Kenai River known around the world as a premier sport fishing destination for monster kings. These factors and more, arguably, also combine to make the allocative tension in UCI the highest in the State's (sic) fisheries."¹⁸

Analysis of Cook Inlet salmon allocations is a critical issue deserving of significantly more time and attention than the Task Force had available. Nevertheless, during its meetings the Task Force heard testimony from parties on many sides of the issue, and

¹⁸ Alaska Board of Fisheries, Upper Cook Inlet Committee, *Upper Cook Inlet Salmon Management Plans and Issues*, March 9, 2007, 3

collected and reviewed economic and scientific data that should help illuminate future allocation and policy discussions. In addition, this section of the report discusses the foundation established in Alaska's Constitution to guide salmon allocations and the relevant historical context in which it developed. It then assesses current Upper Cook Inlet salmon management plans and allocations in relation to that Constitutional framework and subsequently adopted statutory provisions.

The Constitutional Mandate for Resource "Conservation."

The Alaska Constitution makes it clear that state natural resources are to be managed for both utilization and conservation on a "sustained yield" basis.¹⁹ In accordance with that mandate, the Alaska Board of Fisheries (BOF) and ADF&G develop salmon management plans for Upper Cook Inlet.²⁰ The plans are developed as part of Alaska's *Sustainable Salmon Fisheries Policy* (SSSP) which is designed to ensure the long-term sustainability of the resource.²¹

Stocks are managed for "sustained yield" by attempting to ensure sufficient fish return to the spawning grounds each year to guarantee future harvests and the viability of the

¹⁹ *Constitution*, Art. VIII, Secs. 2, 4

²⁰ 5 AAC 39.223(a): "The Department of Fish and Game (department) and the Board of Fisheries (board) are charged with the duty to conserve and develop Alaska's salmon fisheries on the sustained yield principle. Therefore, the establishment of salmon escapement goals is the responsibility of both the board and the department working collaboratively."; For a recent discussion of that process and UCI issues, see Alaska Board of Fisheries, Upper Cook Inlet Committee, *Upper Cook Inlet Salmon Management Plans and Issues*, March 9, 2007; and see Hilsinger, John, Dir. Div. of Commercial Fisheries and Swanton, Charles, Dir. Div. of Sport Fisheries, ADF&G memorandum to Mel Morris, Chairman Alaska Board of Fisheries, *Upper Cook Inlet Management Options*, January 24, 2008

²¹ See generally 5 AAC 39.222, *Sustainable Salmon Fisheries Policy*

stock. The terminology used by ADF&G to describe that variable is "escapement," the total number of salmon that make it into the rivers and lakes to spawn. Fisheries managers periodically adjust escapement goals for each stock to ensure enough fish make it to the spawning grounds and also to prevent too many fish from spawning, which biologists fear could jeopardize future runs by over-taxing the carrying capacity of the ecosystem. The latter concept, too many spawning fish, is referred to as excess, or "over-escapement." As ADF&G points out, managing for sustained yield requires identifying not only the number of spawning fish for each stock, but also the number of their offspring that survive to adulthood.²² The number of surviving offspring is calculated by adding the number of spawning fish and the number of fish harvested for each parent generation – thus making accurate assessment of mixed-stock harvests critical.²³

For ADF&G stock and age specific catch and escapement data have been the scientific basis for pre-season run forecasting and establishment of escapement goals.²⁴ Unfortunately, state fishery managers acknowledge that with regard to Upper Cook Inlet sockeye salmon harvests, current methodology used to apportion sockeye salmon catches

²² Fair, Lowell F., Regional Research Coordinator Div. of Commercial Fisheries, ADF&G, memorandum to John Hilsinger, Dir. Div. of Commercial Fisheries, *Upper Cook Inlet stocks of concern follow-up on Yentna River sockeye salmon*, January 30, 2008, 3

²³ *Ibid.*

²⁴ For articulation of state escapement goal policies and definitions, see 5 AAC 39.223 *Policy for statewide salmon escapement goals*. For state mixed-stock management policy, see 5 AAC 39.220

to particular stocks represents only a "coarse approximation," and that historically, "a series of largely untested assumptions have been used to allocate stock composition."²⁵

That fact makes it difficult to assess the adequacy of current Upper Cook Inlet sockeye salmon management escapement goals as they relate to the Constitutional mandate to "conserve" the resource for future use, as well as utilize it for current benefit. Starting in 2005, ADF&G undertook development of a genetics program that shows great promise as a method for accurately identifying stock compositions of harvests of Upper Cook Inlet sockeye salmon. Unfortunately, the program is still in early stages of development and the partial data collected over the past three years will not be applied to historical harvests of UPI sockeye for some time.²⁶

Given that a major impetus for the formation of the Task Force was concern about diminishing returns of Northern District sockeye stocks to the Mat-Su Valley in recent years, a great deal of time was spent assessing that issue. Rather than summarize that discussion here, the Northern District sockeye issue is primarily dealt with separately in Section VII of this report.

It should be noted here, however, that measures taken by ADF&G to meet escapement goals for Northern District sockeye salmon have often resulted in "over-escapement" in

²⁵ *Fair, follow-up on Yentna*, 3

²⁶ *Ibid.*, 3-5

other Upper Cook Inlet sockeye stocks in the Kasilof and Kenai Rivers.²⁷ Yet those stocks nonetheless appear to be strong. If true, that fact may add credence to testimony and scientific evidence presented to the Task Force which argues that “over-escapement” does not actually present a threat to salmon stock viability or run size, but instead a benefit – by increasing the level of nutrients present in the lakes where juvenile salmon feed and thereby correspondingly increasing the carrying-capacity of those ecosystems.²⁸

According to that theory and emerging body of scientific research, as more salmon spawn and decay in the lakes, nutrients from the decaying carcasses significantly increase the capacity of the ecosystem to support additional juvenile salmon, and more young salmon survive to adulthood thus increasing the size of future runs. A recent study led by University of Alaska professor Bruce Finnley found a direct relationship between salmon derived nutrients, climate and larger salmon runs. Prof. Finnley stated:

“Higher levels of nutrients (from increased numbers of decaying carcasses) support more juvenile salmon. More younger salmon survive, and more salmon eventually come back and die, releasing more nutrients. This positive feedback can increase the carrying capacity of the freshwater system.”²⁹

²⁷ BOF, *Upper Cook Inlet Salmon Management Plans and Issues*, 5; Hilsinger, John and Swanton, Charles. *Upper Cook Inlet Management Options*, 2

²⁸ For links to research, see testimony of Krogsgen, Mel, to the Salmon Task Force, May 27, 2008. See also testimony of Johnson, Don to the Salmon Task Force, May 2008 for a discussion of the topic

²⁹ Finnley, Bruce P.; Gregory-Eaves, Irene; Sweetman, Jon; Douglas, Marianne S. V.; Smol, John P.; *Impacts of climate change and fishing on Pacific salmon abundance over the past 300 years*, *Science* journal, vol. 290, 27 Oct. 2000, p. 795-99; as cited in National Oceanic and Atmospheric Administration News, Oct. 2000, <http://www.noaa.gov/stories/s518.htm>

Such research suggests that fishery management for maximum sustained yield would require a different escapement approach than currently employed by ADF&G – one that would put significantly more fish in the rivers. While that may be true, that choice is still a policy decision because the Alaska Constitution doesn't mandate "maximum sustained yield." Instead, the guiding principle is "sustained yield" to achieve "maximum benefit" for Alaskans. That standard allows for value judgments on desired "optimum" escapement levels, rather than a management system designed purely to maximize yield – provided that the Constitutional threshold of resource "conservation" is met.³⁰

While state fishery management practices are clearly designed to satisfy the sustained yield requirement of the Constitution, based on the limited time available for review, the Task Force drew no conclusions regarding whether or not current Upper Cook Inlet salmon escapement levels are adequate to conserve all stocks. However, the Task Force heard testimony from one retired ADF&G biologist with extensive experience in Cook Inlet salmon management, who believes current policies are not adequate to conserve

³⁰ For contrasting views on state escapement policy implications for resource conservation, see Kenai Peninsula Fishermen's Association (setnet fishing assoc.), letter to the Task Force, February 11, 2009, (note: all emphasis original), "Our Organizations (sic) Goal: 'Ensuring the Sustainability of Our Fishery Resources.' What this means is we subscribe to the principles of *Maximum Sustained Yield* and to the slight variation, *Optimum Sustained Yield*. We do not agree with management that is determined by politics or social pressures. . . . The Department (ADF&G) has chosen its management of our entire State on the principles of *Sustained Escapement Goals*. This is a far departure from establishing *Biological or Maximum Sustained Yields*. This is a cost saving measure by the Department and does nothing to accomplish *High Sustained Yields*;" and see Kenai Area Fisherman's Coalition (a non-commercial fishing group, including fisheries biologists), letter to the Task Force, October 27, 2008; "We believe that habitat protection should be the primary goal . . . (and) strongly support salmon escapement goal management. This is the foundation Alaska has developed to maintain salmon resources at sustainable levels. . . . There is compelling evidence that when these goals are exceeded future yields will be reduced."

many Northern District stocks.³¹ He urged immediate legislative action to require changes to escapement policies and warned that failure to do so could result in irreversible harm to the resource and lead to future lawsuits and court injunctions that would severely disrupt fisheries management.³²

The Task Force also heard testimony from Alaska Seafood Marketing Institute (ASMI) representatives who emphasized the growing importance of "sustainability" in relation to Alaska's ability to market its seafood products globally. ASMI Executive Director Ray Riutta stressed that sustainability of the product (resource) has become an increasingly important marketing message for ASMI. "Sourcing seafood sustainability has become more important to retailers, chefs and food service operators. It is one of our major points of differentiation . . . and distinguishes Alaska seafood from other products in the market,"³³ Riutta said. He also pointed out that Alaska's fishery management programs meet or exceed international criteria established by the United Nations for sustainable fisheries management.³⁴

³¹ Grauvogel, Carl A., Memo and testimony to the Task Force, May 29, 2008, 1, "Rest assured sockeye, chum, and some coho stocks in northern Cook Inlet are in tough shape, and their decline is supported by many other kinds of data. Management practices must be implemented soon to prevent a population collapse that will be difficult if not impossible to reverse."

³² *Ibid.*, 2, "Right now the highest priority goes to that species with the greatest economic impact (Kenai sockeyes) at the expense of all other salmon populations and species of salmon in Cook Inlet. Antiquated management practices, now so prevalent in Northern Cook Inlet, should no longer be tolerated. Right now, our present Cook Inlet policy does not meet our constitutional mandates to manage all species for sustained yield. If something is not done by this legislature, I predict the courts will soon be issuing injunctions that could throw Cook Inlet salmon management into complete chaos."

³³ Riutta, Ray, Ex. Dir. ASMI, testimony to the Task Force, October 9, 2008, 1

³⁴ *Ibid.*, 2-3

But in 2007, a five-year reassessment study of Alaska salmon management policies commissioned by ADF&G³⁵ found that current escapement and management policies for some UCI salmon stocks may not be sufficient to ensure continued certification as “sustainable” according to standards established by the international Marine Stewardship Council (MSC).³⁶ While the assessment study resulted in renewed MSC certification of Alaska salmon products for an additional five years, and awarded high marks to Alaska salmon management practices generally, the study identified some serious concerns with regard to management of UCI mixed stocks and Northern District sockeye in particular.

The report noted that “Management decisions in Upper Cook Inlet are heavily influenced by a subset of stocks, particularly the large productive Kenai and Kasilof sockeye runs.”³⁷

The review found that:

“Scientifically defensible productivity estimates have been derived for some but not all target stocks. Stock-recruitment data based on run reconstructions is adequate to identify biological or sustainable escapement goals for most sockeye and chinook stocks. However, information is incomplete or lacking on the productivity of some key stocks including Susitna sockeye, Kasilof chinook, and coho. Risk assessments have considered uncertainty in productivity but formal assessments have concentrated on key fishery stocks. For instance, management considerations in recent years have included a substantial

³⁵ Scientific Certification Systems Inc., Marine Fisheries Conservation Program, *Final Report: The Commercial Alaska Salmon Fisheries Managed by the Alaska Department of Fish and Game A 5-Year Re-Assessment Based on the Marine Stewardship Council Program*, October 30, 2007, 149, sec. 1.1.2.4

³⁶ The Marine Stewardship Council is the world's leading certification and ecolabelling program for sustainable seafood. See <http://www.msc.org/about-us>

³⁷ *Ibid.*, 148, 1.1.1.4

focus on productivity concerns associated with exceeding the upper end of Kenai and Kasilof sockeye escapement goals.”³⁸

Of particular significance, the MSC compliance assessment determined that UCI Northern District Yentna sockeye met MSC’s operational definition of a “depleted stock” based on the stock’s repeated inability to meet minimum escapement goals in recent years.³⁹ The study noted that “failure to meet the minimum escapement goal for this stock is particularly concerning because goals have been reduced on two previous occasions.”⁴⁰ As a condition of continued MSC certification, the report required ADF&G to review the status of Susitna sockeye stocks and develop an action plan “intended to ensure achievement of Susitna sockeye escapement goals,” including articulation of “specific goals” and a “timeline for achieving those goals.”⁴¹

The report emphasized that “the fact that Yentna sockeye have apparently declined during a period of favorable ocean productivity could be indicative of changes in local productivity in the Susitna system, problems with the assessment methods, a fishery effect. Any of these causes could be construed as a basis for significant concern from the standpoint of stock sustainability.”⁴²

³⁸ ADF&G 5-Year MSC Re-Assessment, 149, sec. 1.1.2.4

³⁹ *Ibid.*, 150, 151. At the time of the study, the Yentna sockeye stock had missed ADF&G sustainable escapement goals (SEGs) in 4 of the previous 5 years. Counting this year, the Yentna sockeye stock has failed to meet minimum escapements in 5 of the past 8 years, including barely meeting the minimum in 2008 by the narrowest of margins (minimum SEG: 90,000; 2008 escapement: 90,143)

⁴⁰ ADF&G 5-Year MSC Re-Assessment, 150-151, sec. 1.2.1

⁴¹ *Ibid.*, Condition 37, 151

⁴² *Ibid.*, 152

In February 2008, the Alaska Board of Fisheries designated Susitna (Yentna) sockeye salmon as a stock of "yield concern" which is defined as "a concern arising from a chronic inability, despite the use of specific management measures, to maintain expected yields, or harvestable surpluses, above a stock's escapement needs."⁴³ It should be noted that the designation of a "yield of concern" by the BOF is the lowest "level of concern" of three potential levels that may be applied to a struggling stock.⁴⁴ Under the Alaska Sustainable Salmon Fisheries Policy (SSFP), a stock is not considered a "depleted stock" until it has been designated with the highest level of management concern – a "conservation concern" – which arises only when there's a demonstrated chronic inability to maintain escapements above a "sustained escapement threshold" (SET).⁴⁵ A SET is defined as a minimum threshold level of escapement, below which the ability of the salmon stock to sustain itself is jeopardized.⁴⁶

But as the MSC compliance assessment pointed out, no sustainable escapement thresholds, or SETs, have ever been established for any Alaska salmon stock and therefore "conservation concerns have never been formally recognized by the management system."⁴⁷ The MSC assessment noted the lack of SETs has been driven partially by a lack of scientific data, but also by "a belief system within the management

⁴³ 5 AAC 39.222(f)(42)

⁴⁴ *Ibid.*, "A yield of concern is less severe than a management concern, which is less severe than a conservation concern."

⁴⁵ 5 AAC 39.222(f)(6-7)

⁴⁶ *Ibid.*, (f)(39)

⁴⁷ *ADF&G 5-Year MSC Re-Assessment*, 150, sec. 1.2.1

agency (ADF&G) that conservation risks of overfishing are practically nil for salmon stocks where the habitat is intact.”⁴⁸

While the MSC compliance report noted that ADF&G believes its management and assessment programs are adequate to assure the long-term biological characteristics and reproductive capacity of UCI salmon stocks, it nonetheless expressed some concern on those points. The report stated that “given the intensive nature of UCI fisheries, it is unclear whether management actions are adequate for the health of all target stocks relative to biological characteristics such as age, size, sex and genetic structure.”⁴⁹ It pointed to the potential of high UCI harvest rates to negatively impact the diversity and productivity of the stocks in the future,⁵⁰ and again expressed concern regarding ADF&G management philosophy stating:

“Of particular concern to the reviewers has been a prevailing belief in the management system that fisheries cannot pose a significant risk to salmon sustainability where habitats are intact. Until this belief has been thoroughly vetted, documented, and published in the scientific literature, this review must continue to treat this view as an untested hypothesis.”⁵¹

Whether or not those statements fairly characterize ADF&G policies, the report’s conclusion that based on MSC standards Susitna sockeye are a “depleted stock” should

⁴⁸ *Ibid.*, sec. 1.1.3.1

⁴⁹ *Ibid.*, 152, sec. 1.3.1

⁵⁰ *Ibid.*, 152-153, “Salmon conservationists have increasingly recognized the close relationship between diversity and productivity. All of this adds up to a real, albeit theoretical risk that intensive fisheries could exert a directional selective pressure which, over a period of time, could alter the genetic composition and performance of a stock.”

⁵¹ *Ibid.*, 153

be cause for serious concern by state policy makers and fishery managers. Given the Alaska Constitutional mandate for "conservation" of state resources; and ASMI's increasing reliance on "sustainability" as a key marketing tool for Alaska's seafood products, it's imperative that steps be taken to ensure the sustainability of Susitna sockeye salmon stocks.

The BOF's 2008 designation of the Susitna stock as a "yield of concern" formally initiated that process. But it's not evident that ADF&G's *Susitna Sockeye Salmon Action Plan*⁵² (*Susitna Plan*) adopted in response to the BOF action is adequate to comply with either state law or MSC requirements regarding stocks where there is a concern.

Both state law and MSC standards require development of an action plan that outlines specific goals and corrective actions, along with performance measures to determine the plan's effectiveness and progress.⁵³ The *Susitna Plan* contains few of those elements and fails to list any specific goals, timelines, or performance measures. It also largely fails to address critical habitat restoration and protection issues, including one major problem – how to effectively deal with invasive species predation (northern pike) in Susitna salmon spawning areas. Given those significant omissions, the *Susitna Plan* may

⁵² ADF&G, *Susitna Sockeye Salmon Action Plan*, February 2008

⁵³ 5 AAC 39.222(d)(4),(5); ADF&G *5-Year MSC Re-Assessment*, 151, Condition 37, "Review stock status of Susitna sockeye and develop an action plan intended to ensure achievement of Susitna sockeye escapement goals. Action plan should provide specific goals and an anticipated timeline for achieving the goals." See also *Ibid.*, 216, sec. 12, "An Action Plan (was) submitted by ADF&G and approved (during the 2007 MSC recertification review)"

not satisfy legal requirements established in Alaska's *Sustainable Salmon Fisheries Policy*, or meet conditions necessary for continued MSC certification.

For many on the Task Force, it became clear that ADF&G's *Susitna Plan* in its current form is inadequate to address a critical resource conservation issue that affects a large and growing segment of Alaska's population. Without articulation of specific goals and specific actions for achieving them, the plan is ambiguous and lacks focus. Without inclusion of performance measures and firm timelines, the plan's effectiveness will be impossible to measure. Without greater focus on habitat restoration and protection, the plan is arguably negligent.

In sum, it appears that ADF&G's *Susitna Plan* essentially constitutes more of a "research plan" than the "action plan" envisioned and mandated by Alaska's *Sustainable Salmon Fisheries Policy*.

Upper Cook Inlet Salmon Allocations: Achieving "Maximum Benefit" for Alaskans

Legal Framework:

The Alaska Constitution requires that state fishery resources be utilized in a manner that maximizes both their use and benefit to Alaskans.⁵⁴ But the Constitution offers no guidance on exactly what that means. State statutes do however. AS 16.05.251 establishes guidelines for the Board of Fisheries to follow when adopting regulations and allocating fishery resources. It requires that BOF regulations be consistent with the sustained yield principle and "provide a fair and reasonable opportunity for the taking of fishery resources by personal use, sport, and commercial fishermen."⁵⁵ AS 16.05.251(e) gives the BOF authority to allocate fishery resources, mandates that the BOF adopt criteria for fishery allocations,⁵⁶ and lists factors that may be considered by the BOF in adopting criteria. Those factors include:

1. the history of each personal use, sport, guided sport, and commercial fishery;
2. the number of residents and nonresidents who have participated in each fishery in the past and the number of residents and nonresidents who can reasonably be expected to participate in the future;
3. the importance of each fishery for providing residents the opportunity to obtain fish for personal and family consumption;
4. the availability of alternative fisheries resources;
5. the importance of each fishery to the economy of the state;

⁵⁴ Constitution, Art. VIII, Secs. 1 & 2

⁵⁵ AS 16.05.251(d)

⁵⁶ AS 16.05.251 (e) states in part: "The board *shall* adopt criteria for the allocation of fishery resources and *shall* use the criteria as appropriate to particular allocation decisions." (emphasis added)

6. the importance of each fishery to the economy of the region and local area in which the fishery is located; and
7. the importance of each fishery in providing recreational opportunities for residents and nonresidents.⁵⁷

With more than half of the state's population bordering Upper Cook Inlet, and a well-established commercial fishery in the region, all of those factors should come into play. Unfortunately, the Board of Fisheries has never adopted any criteria for fishery allocations – despite the fact that the legal requirement to do so has been in place since 1986.⁵⁸ That fact alone argues for continued legislative inquiry into the Cook Inlet salmon allocation process.

Summary of Discussion:

During the course of its meetings, the Task Force heard heart-felt testimony from groups and individuals on many sides of the allocation issue. Advocates of sportfishing presented data on Alaska's growing population concentration in Southcentral Alaska and the Mat-Su Valley and pointed to the importance of Cook Inlet for both sportfishing recreational opportunities and access to Alaska's seafood resource for a majority of the Alaska public.⁵⁹ They presented economic data demonstrating the significant economic

⁵⁷ AS 16.05.251(e): "The Board of Fisheries may allocate fishery resources among personal use, sport, guided sport, and commercial fisheries. The board shall adopt criteria for the allocation of fishery resources and shall use the criteria as appropriate to particular allocation decisions."

⁵⁸ Instead, in various regulations dealing with salmon regulations, the BOF has simply cross-referenced AS 16.05.251 and stated: "Before adopting regulations that allocate fish among personal use, sport, and commercial fisheries, the board will, as appropriate to particular allocation decisions, consider factors such as those set out in AS 16.05.251 (e)."; 5 AAC 39.205; 5 AAC 39.220; 5 AAC 75.017; 5 AAC 77.007

⁵⁹ See for example, Kenai River Sport Fishing Association, *Executive Summary, Economic Values of Sport, Personal Use, and Commercial Salmon Fishing in Upper Cook Inlet*, January 2008, ES 3-5. See also Kluberton, Tom, Chair Matanuska-Susitna Mayor's Blue Ribbon Sportsmen's Committee, *Letter to The*

value of the Cook Inlet sport fishery and its growing importance to statewide tourism⁶⁰; as well as comparative data showing that allocations of salmon harvests for sportfishing in Alaska are much lower than allocations for sportfishing in other salmon fisheries in the Northwest and Canada.⁶¹ Representatives of dip-net organizations pointed out that they are technically neither “sport” nor “commercial” and argued for fairer allocations for their rapidly growing segment of the fishery.⁶² Cook Inlet commercial fishing organizations stressed the historical significance of commercial fishing to the Kenai Peninsula and its continuing major economic impact on the region and commercial fishing families.⁶³ They also pointed to the interdependency of commercial fishing and sportfishing in relation to stock escapement goals set by fisheries managers to ensure sustainable runs.

The discussion was at times heated, but most often meaningful – with well prepared presentations and testimony designed to educate the Task Force on various aspects of this complex issue. Every member of the Task Force was appreciative of the significant time

Joint Legislative Cook Inlet Salmon Task Force, through Menard, Curt, Mayor Matanuska-Susitna Borough, December 5, 2008

⁶⁰ *KRSA Executive Summary*, ES 7-10, 12. For a detailed and thorough analysis see also, Southwick Associates, Inc., et al., *Economic Impacts and Contributions of Sportfishing in Alaska*, ADF&G Prof. Pub No. 08-01, 2007, 90-100

⁶¹ *KRSA Executive Summary*, ES 11, “Commercial fisheries are allocated about five-sixths (82%) of the Upper Cook Inlet salmon harvest, while sport, personal use, and subsistence fisheries are allocated about one-sixth (18%) of the catch. The percentage of the total salmon harvest that is allocated for recreational use in British Columbia is 11%, in the Pacific Northwest it is 4%, and in Alaska it is 2%.”

⁶² Gease, Denise, Vice Pres. South Central Alaska Dip-netters Association, Testimony to Task Force, May 22, 2008, “Last year . . . 20,000 permits (were) issued . . . and over 80,000 Alaskans (were) involved in this very popular and growing fishery.”

⁶³ United Cook Inlet Drift Association (UCIDA), *Proposed Findings for the Upper Cook Inlet Joint Legislative Task Force*, May 22, 2008, 3-4. See also Northern Economics, *The Seafood Industry in Alaska's Economy*, 48-52

and sincere effort put in by the groups and individuals who participated. For that, we would like to extend our sincere thanks.

Key Facts and Considerations:

While the Task Force had no time to deliberate on Cook Inlet allocations, some facts regarding Upper Cook Inlet salmon allocations became evident:

- Undeniably, both the sport and commercial salmon fisheries have a significant economic impact on the region and Alaska;⁶⁴
- Each has a long history in the area and are composed of both residents and non-residents;
- Alaska's commercial salmon fishing industry has struggled in recent years with overcapitalization; globalization of markets and increased international competition from farmed salmon, the resulting decline in prices; rising fuel costs; and the overall devaluation of commercial salmon fishing permits – all factors that have created increased economic pressure on commercial fishermen and their families;
- Major allocative adjustments therefore have the potential to threaten the continued economic viability of some segments of the UCI commercial salmon fishing industry;
- Upper Cook Inlet commercial salmon fishing harvests represent only 2% of the total annual Alaska commercial salmon harvest⁶⁵
- More than half of Alaska's population is heavily dependent on the UCI fishery for reasonable access to state salmon fishery resources and recreational opportunities;
- The UCI salmon fishery is critical to the ability of a majority of state residents to obtain salmon for personal use and family consumption;

⁶⁴ Economic impacts are discussed in the next section of the Task Force report

⁶⁵ *KRSA Executive Summary*, ES 6

- Some UCI salmon stocks are managed primarily for sport, while others are managed primarily for commercial use to provide economic benefit to commercial fishermen;⁶⁶
- Sockeye salmon are by far the most plentiful of Upper Cook Inlet salmon species, making up 83% of the total salmon run – while Chinooks (Kings) and Cohos (Silvers) combined constitute less than 10%;⁶⁷
- Sockeye salmon represent by far the largest single component of the UCI commercial harvest, constituting roughly 93% of the total commercial harvest value⁶⁸
- Approximately 18% of total Upper Cook Inlet salmon harvests are allocated to sport and personal use fisheries, while 82% of the salmon harvest is allocated to the commercial fishing industry;⁶⁹
- 97% of the Northern District Susitna Sockeye salmon are harvested by commercial fishermen and only 3% by sport⁷⁰

Applying Maximum “Use” and “Benefit” Principles to Cook Inlet Allocations:

It’s no surprise that Cook Inlet salmon allocations are commonly referred to as “salmon wars” in the increasingly populated region. With approximately 61 percent of the state’s population living along its shores,⁷¹ Upper Cook Inlet is the primary marine resource

⁶⁶ See ADF&G management plans, 5AAC 21.358-60; UPI Chinooks (Kings) and Cohos (Silvers) are managed primarily for sport use, while Sockeyes (Reds) are managed primarily for commercial value

⁶⁷ *KRSA Executive Summary*, ES 11, Fig. ES 15 (citing ADF&G, 2007: 2002-2006 UCI salmon run averages). Based on the numbers presented in the chart, Silvers constituted roughly 7.5% and Kings 1.7% of the total salmon run in UCI during those years (9.2% combined).

⁶⁸ *Ibid.*, ES 1; UCI commercial harvest values of other salmon species include: Coho (3%), Chinook (3%), Chum (.5%) and Pink (.5%).

⁶⁹ *Ibid.*, ES 11

⁷⁰ Rutz, David, ADF&G Sport Division, *Management and Stock Status of Northern and Western Cook Inlet Sport Fisheries, A Report to the Legislative Salmon Task Force*, June 25, 2008, 21

⁷¹ US Census Bureau 2007 estimates project the total Alaska population at 683,478, with the UCI Region representing 415, 437 of that figure – or .6078%. US Census 2007 population estimates for the various components of UCI population are: Anchorage, 279, 671; The Kenai Peninsula Borough, 53, 097; The Mat-Su Borough, 82,669.

available to most Alaskans. To the extent demand for the state's salmon resource exceeds supply – which it has since statehood – one user's gain is another potential user's loss.

But the Constitution makes it clear that fishery managers must balance competing interests to achieve two things: 1) maximum sustainable "use" of the resource; and 2) maximum "benefit" for Alaskans. The challenge is determining exactly which combination of potential beneficial uses will "maximize" both the use and benefit – without jeopardizing the resource. The task is even more difficult because the terms "maximum use" and "maximum benefit" are not strictly defined in the Constitution – and thus are open to various interpretations.

For example, Art. VIII, Sec. 1 states that the policy of the state is to encourage "maximum use" of state resources, "consistent with the public interest." While that section doesn't require use exclusively by state residents, it's not clear exactly what would constitute "maximum use." Is the phrase intended to suggest that use is "maximized" in strictly economic terms when the highest percentage of the yield is harvested, or alternatively from a socio-economic perspective when the greatest number of Alaskans are able to enjoy and "utilize" the resource? The final clause of that section of the Constitution which qualifies that uses must be "consistent with the public interest" suggests the framers intended the meaning to be interpreted broadly, encompassing both quantifiable "economic" uses and intangible, noneconomic or recreational uses – irrespective of whether the resource's yield is fully harvested.

Similarly, Sec. 2 of Article VIII mandates that natural resources be utilized in a manner that produces “maximum benefit” for Alaskans. Many have interpreted that as being equivalent to “maximum economic benefit” and have relied heavily on economic impact studies to demonstrate their use of the resource produces the greatest benefit for Alaska and is therefore deserving of the largest share. But while economic benefit is obviously a key component of any “maximum benefit” equation, the framers clearly did not intend economics alone to be determinative. If they had, they could have easily included the word “economic” in the “maximum benefit” language of Section 2.

Again, a reasonable interpretation of the inclusive wording of the Constitution suggests the framers intended something more “equitable” and encompassing to be the framework for allocative decisions – not merely objective economic data alone. That interpretation is supported by other sections of the Constitution that specifically reserve fish resources for the “common use”⁷² and prohibit creation of an “exclusive right or special privilege of fishery.”⁷³

The distinctions are not trivial, because combined they suggest the intent of the framers to have fishery allocative decisions based broadly on a multitude of factors, some economic, some socio-economic, in order to create the greatest benefit for Alaskans. That’s not surprising, given the important historical context at the time the Constitution was drafted, a period when many Alaskan salmon stocks were severely depleted and on

⁷² *Constitution*, Art. VIII, Sec. 3

⁷³ *Ibid.*, Sec. 15

the verge of extinction because of overexploitation by outside commercial interests who had monopolized the resource during Territorial days.

Historical Context: The Origins of Alaska Salmon Allocation Policy⁷⁴

By the late 1800s, salmon stocks in the Pacific Northwest had been depleted to the point that large West Coast canning companies began establishing canneries in Alaska. The salmon industry quickly became Alaska's largest industry and by the turn of the century, almost fifty canneries were in operation.⁷⁵ At one point, taxes on the canning industry accounted for 75 percent of all taxes collected in the Territory.⁷⁶ Most cannery owners and workers were nonresidents and much of the harvest was caught in large fish traps owned directly by the processors.⁷⁷

From the purchase of Alaska until statehood, regulation of salmon fisheries was managed by the federal government. But despite passage of early laws designed to conserve the resource,⁷⁸ the efficiency of the fish traps combined with lax federal regulation and enforcement led to problems within decades. Record harvests in the late 1930-40's were

⁷⁴ For an excellent, brief overview of the history of the commercial salmon fishing industry in Alaska, see Northern Economics, *The Seafood Industry in Alaska's Economy*, 11-12

⁷⁵ Fried, Neal, "Alaska Seafood Processing – A Growing Job Source?", *Alaska Economic Trends*, March 1996, 1

⁷⁶ *Ibid.*

⁷⁷ *Ibid.*; For a great discussion of fish traps and the resentment of Alaskans to them, see King, Robert, *Sustaining Alaska's Fisheries: Fifty Years of Statehood; part 2 of 10*, for ADF&G, Feb 2009, 4-5

⁷⁸ Kruse, Gordon, et al., *Overview of State-Managed Marine Fisheries in the Central and Western Gulf of Alaska, Aleutian Islands, and Southeastern Bering Sea, with Reference to Steller Sea Lions*, ADF&G Regional Information Report 5J00-10, October 2000, 62, "The White Act, passed in 1924, required fishing seasons, a mandatory 36-hour weekly closed period, and maintenance of escapement levels at 50% of the run."

followed by rapid and dangerous declines in salmon stocks.⁷⁹ By 1953 stocks had become so depleted that President Eisenhower declared Alaska a federal disaster area. About the same time, a new international treaty designed to help Japan rebuild after World War II allowed Japanese fishing fleets to operate in the Bering Sea and western Aleutians, where they began to intercept tens of millions of Bristol Bay bound salmon – further infuriating Alaskans.⁸⁰ In addition, the total statewide salmon harvest in 1959 amounted to only 25 million fish – about twenty percent of current yields.⁸¹ So by the mid-1950s, the desire by Alaskans to control management of their salmon resource and concerns over the sustainability as one of Alaska's leading industries became a driving force in the push for statehood.⁸²

A recent publication by ADF&G notes that “Alaska's dwindling salmon runs and longstanding resentment over fish traps combined in 1955 when delegates from across Alaska came together to write a state constitution.”⁸³ Former Governor Ernest Gruening delivered an opening keynote speech in which he “offered an obituary on the salmon industry” and blamed the federal government for “colonialism” that had both

⁷⁹ *Ibid.* “Enforcement of regulations was ineffective or non-existent. Stock assessment programs to monitor escapement were poorly funded and generally not available to ensure that the 50% escapement objectives were achieved. In addition, regulatory actions required secretarial level approval and implementation of regulations to close fisheries often occurred too late to effect conservation.”

⁸⁰ King, ADF&G, 2-3

⁸¹ *Ibid.*, 3

⁸² *Ibid.*, 1-3

⁸³ *Ibid.*, 2

“disregarded the interest of the people of Alaska . . . and preferred to conserve the power of . . . a politically potent absentee industry.”⁸⁴

After statehood, Alaska took over control of fisheries management. Fish traps were quickly banned and a new management system was designed and put in place to ensure both resource sustainability (by guaranteeing adequate escapement) and fair allocations to various Alaskan user groups.⁸⁵ As ADF&G has recently stated:

“The work produced by 55 Alaskans that winter later became regarded as a model constitution and it uniquely included key provisions intended to preserve Alaskan fisheries: reserving fish as a common property resource, providing for principles of sustained yield management, and prohibiting any exclusive right of fishery.”⁸⁶

Analysis of the Fairness and Constitutionality of Current Cook Inlet Salmon Allocations:

It’s clear from both the language of the Constitution and from the historical context, that the framers intended allocations of state fishery resources to benefit Alaskans in the broadest sense possible. Concern for the sustainability of salmon resources was a primary consideration. But so too was the principle that the resource belonged to all

⁸⁴ *Ibid.*

⁸⁵ Woodby, Doug, et al., *Commercial Fisheries in Alaska*, ADF&G, Special Publication 05-09, June 2005, 4-5, “Local fisheries managers are given authority to open and close fisheries to achieve two goals: the overriding goal is conservation to ensure adequate escapement of spawning stocks, and the secondary goal is allocation of fish to various user groups based on management plans developed by the Alaska Board of Fisheries.”

⁸⁶ King, ADF&G, 2

Alaskans equally, for their common use. The framers clearly intended that the benefits should not be reaped by only a few, to the detriment of the many – as had been the case during Territorial days.⁸⁷

Analyzing current allocations of Upper Cook Inlet salmon, it appears that important lessons of the past may not have been heeded, nor constitutional mandates followed. Currently 82% of the total Upper Cook Inlet salmon harvest is allocated to less than 1% of the region's population – those who hold commercial fishing permits.⁸⁸ 93% of the total \$20 million economic value of the commercial salmon harvest⁸⁹ is sockeye salmon. Thus 99% of all potential Cook Inlet salmon resource "users" are awarded only 18% of the total harvest – and only a fraction of the resource's overall direct economic value.⁹⁰

⁸⁷ Hence the strong language of Art. VIII, Sec. 15: "No exclusive right or special privilege of fishery shall be created or authorized in the natural waters of the State."

⁸⁸ That percentage is derived by taking the US Census Bureau estimated 2007 total UCI region population (415,437) and subtracting the number of Alaskans who reside in households that hold UPI commercial fishing permits (2,667). The latter figure is based on the total number of UCI commercial fishing permits issued to residents in 2007 (618 setnet; 401 drift - for a total of 1018) multiplied by the 2.62 average persons per household in the Kenai Peninsula Borough. Thus, the 2,667 Alaskans in households with UCI permits represent .006% of the region's population, or less than 1%.

⁸⁹ This figure refers to the ex-vessel value of the salmon product itself, not the total economic value to the region or state generated by UCI commercial fishing. ADF&G put the 2008 UCI sockeye salmon ex-vessel value at approximately \$18 million representing 92.5% of the total UCI commercial salmon harvest value (\$19.7 million). Source: ADF&G News Release, 2008 Upper Cook Inlet Salmon Fishery Summary, November 26, 2008, 2.

⁹⁰ Sockeye salmon represent 83% of the total population of salmon in runs in Upper Cook Inlet. Based on 2008 ex-vessel values, the wholesale value of the 15% of that species allocated to sport/personal use is approx. \$3.2 million, while the value of the allocation to commercial fishing is approx. \$18 million. Most of the UCI sockeye fisheries are managed by ADF&G primarily for the 'economic benefit of commercial fishermen.' See 5 AAC 21.358(a); Hilsinger, John, Dir. Div. of Commercial Fisheries, ADF&G, PowerPoint presentation, *Legislative Task Force Overview of Upper Cook Inlet Salmon Management & Management Plans*, May 2008, 15-16, 20; "Sockeye, chum, and pink salmon stocks, which move through UCI (mid-July to Aug), will be managed primarily for commercial uses."

It's difficult to envision what criteria the Alaska Board of Fisheries applied in making those allocations. For although the BOF has never adopted specific criteria for fishery allocations as required by statute, it's hard to conceive that any objective application of criteria similar to those articulated in AS 16.05.251(e) would result in a division of the Upper Cook Inlet salmon resource remotely resembling the current 82/18 split between commercial and sport/personal use fisheries. As will be discussed in the next section of the Task Force Report, the economic benefit to Alaska from each user group is significant – but decidedly in favor of sport and personal use fisheries by a ratio of at least 6-1.

Consideration of the factor “the number of residents and non residents who participate in each fishery,” also favors the sport/personal use fisheries – by a very wide margin. On that issue there is no doubt – as the ratio is a stunning 40-1. There was a total of 475,534 sport fish licenses issued in 2007.⁹¹ Of that figure, 190,644 were Alaskan residents and 71% of them lived in Southcentral Alaska (134,415).⁹² Combined with the 20,000 personal use dip net permits issued for Southcentral, that brings just the Alaskan participation in the sport/personal use segment of the Cook Inlet fishery to over 150,000 individuals⁹³ – with more than double that number of “potential users” based on current

⁹¹ Southwick Associates, Inc., et al., xiii

⁹² *Ibid.*

⁹³ That figure does not even include children under the age of sixteen who are not required to be licensed.

populations in the region. In addition, in 2007 there were 284,890 nonresident sport anglers who spent 45% of their total fishing days participating in Cook Inlet fisheries.⁹⁴

The Upper Cook Inlet commercial salmon fishing industry by contrast has approximately 1,300 permit holders, representing fewer than 3000 Alaskans.⁹⁵ In addition, it's estimated that there are between 1,375 and 8,000 individuals employed in harvesting or processing seafood (all species) in the Southcentral commercial fishing industry,⁹⁶ although many of those are seasonal jobs held by nonresidents,⁹⁷ and many are outside of Cook Inlet.⁹⁸ Even so, using the highest available employment estimates and counting all individuals directly involved in commercial salmon harvesting in Upper Cook Inlet or in seafood processing in all of Southcentral, the total possible commercial fishing

⁹⁴ Southwick, Associates, Inc., et al., xiv Table E4, xx, 157 Appendix D1 (map); Note: The Southwick sub-region for Cook Inlet includes all fisheries in Cook Inlet, including Lower Cook Inlet fisheries below Anchor Point (i.e.: Homer) which are not part of UCI salmon allocations.

⁹⁵ Figure = total UCI resident commercial salmon permit holders (1018 in 2007) x 2.62 average household size (US Census 2007 estimate) for a total of 2,667 individuals. UCI commercial fishing permit data from State of Alaska, Commercial Fisheries Entry Commission, Permit Statistics For Alaska's Upper Cook Inlet Drift and Set Gillnet Participation, Salmon Fisheries 1995-2007, table prepared by research staff at the request of Joint Cook Inlet Salmon Task.

⁹⁶ *KRSA Executive Summary*, ES 6, puts the total employment figure attributable to the UCI commercial salmon industry at 1,375-2,500; while Northern Economics, Inc., 51 Fig. 46, depicts the equivalent of roughly 8,000 individuals (7995 at 16.5% of total statewide workforce) employed in all seafood harvesting and processing jobs in "Southcentral" Alaska. However, that figure would include harvesters and employees of processors outside of the Cook Inlet region.

⁹⁷ Northern Economics, Inc., 56, 57 Fig.51, "Residents account for 30 percent of the seafood processing labor, 70 percent of seafood harvesting labor, and 48 percent of total workforce in the Alaska seafood industry."

⁹⁸ The Northern Economics study does not break out employment numbers for the Cook Inlet Region, or the workforce for just the commercial salmon industry. As a result its much higher overall employment number for the Southcentral Region includes workers harvesting and processing all seafood species (i.e.: shellfish, salmon, halibut, rock fish, etc.) and in areas that are outside the UCI region (i.e.: Prince William Sound and Northern Gulf of Alaska; or Valdez, Cordova, Seward, Whittier, etc.).

industry participation in the Upper Cook Inlet salmon fisheries is less than 7,000 individuals.⁹⁹

Contrast that number with just the 150,000 Alaskans who participate in the sport/personal use segment of the Cook Inlet fishery and the ratio is over 21-1 in favor of sport/personal use. Add in nonresident sportfishing participation in Cook Inlet Fisheries of at least 127,061¹⁰⁰ and the ratio is over 40-1 in favor of sport/personal use utilization of the resource.¹⁰¹

Yet the commercial fishing industry – representing at most 2.3% of those participating in the Upper Cook Inlet salmon fishery – is allocated fully 82% of the harvest.¹⁰²

Based on that fact alone, the current UCI salmon allocations seem disproportionately biased in favor of a tiny segment of the resource's users. Moreover, because of the extreme disproportionality of allocations between user groups, it's arguable that current

⁹⁹ Figure = roughly 6,664 individuals. That amount is equal to 3,000 Alaskans in UCI permit holding households plus the Northern Economics high estimate of 8,000 total workers in the entire Southcentral seafood industry (harvesting and processing/all species); minus the 1,018 Alaskan UCI salmon permit holders already counted as part of the "3,000 Alaskans" and minus harvesters outside of Upper Cook Inlet (3,318 total harvesters; 1,106 permit holders/2,200 crew). Roughly half of those permits fish species other than salmon. Thus, even counting every processing employee in Southcentral including areas outside of Cook Inlet (i.e.: Valdez, Cordova, Homer, etc.), the total possible seafood industry employment for the Upper Cook Inlet salmon industry is under 7000 total. Source: Alaska Limited Entry Commission.

¹⁰⁰ According to the Southwick study 66% of all nonresident fishing days and 70% of all nonresident spending took place in Southcentral. Moreover, the study found that 44.6% of all nonresident fishing days were spent in Cook Inlet. So it's reasonable to assume at least 45% of nonresident licensed anglers fished in Cook Inlet at some point (4.6% of 284,890 nonresident anglers = 127,061). See Southwick, Associates, Inc., et al., xiv, xx, 157 Appendix D1 (map)

¹⁰¹ Figure = 150,000 resident + 127,061 nonresident sport/personal use anglers divided by 6,664 commercial fishing participants (residents + nonresidents). The ratio does not even include sportfishing anglers under the age of 16 not required to have a license.

¹⁰² Figure = UCI commercial fishing permit figures, their families, plus employees of harvesting and processing (res and non res) as a percentage of total UCI sport/per use and commercial "users" combined

UCI salmon allocations violate Article VIII, Section 15 of the Alaska Constitution which specifically prohibits creation of an “exclusive right or special privilege of fishery.”

But in addition to “economic” and “participation” considerations, AS 16.05.251(e) lists three additional factors that may also be considered in making salmon allocations. Those are: 1) the importance of each fishery for providing residents the opportunity to obtain fish for personal and family consumption; 2) the availability of alternative fisheries resources; and 3) the importance of each fishery in providing recreational opportunities for residents and nonresidents. Again, based on each of those criteria, it seems that sport and personal use should be assigned a higher allocation priority than they currently receive in the Upper Cook Inlet salmon fisheries.

For a majority of Alaskans the Upper Cook Inlet fisheries offer the only cost-effective opportunity to obtain salmon for personal and family consumption. Given the current dangerous economic climate, such “personal use” of the resource should be given a high priority by the BOF. To the extent Alaskans are able to fill their freezers with salmon, they will be better able to feed their families – and weather tough economic times. A high prioritization of “personal use” is also entirely consistent with the historic reliance by Alaskans on local fish and game resources as a primary food source. With escalating fuel prices and worsening economic conditions, Alaskans find themselves increasingly dependent on access to local fish and game resources as a means to feed their families – just as in Territorial days when access to outside food sources was generally difficult and expensive. Expanded allocations of Cook Inlet salmon for sport/personal use would

provide Alaskans with an opportunity to “use” the resource in its most inclusive, expansive, and “beneficial” way – to put food on the tables of hundreds of thousands of Alaskan families.

Consideration of the last allocation factor: “the importance of each fishery in providing recreational opportunities for residents and nonresidents,”¹⁰³ should likewise indicate a much greater allocation of Upper Cook Inlet salmon for sport fishing purposes. The Upper Cook Inlet salmon fisheries are not only the primary recreational fishing opportunity available to over half of the state’s population, but increasingly a key component of Alaska’s growing tourism industry, with 60% of all state fishing licenses in 2007 issued to nonresidents.¹⁰⁴ The attraction of salmon fishing is clearly a major factor that draws tourists and their dollars to the state.¹⁰⁵ For most Southcentral Alaskan families, “recreational and sport fishing opportunities” is synonymous with participating in the Upper Cook Inlet salmon fisheries.

The Task Force heard arguments that the current UCI allocation structure takes those factors into account. Some noted that the primary beneficiaries of the Kasilof and Kenai sport/personal use salmon harvests are Alaskans from outside the Kenai Peninsula, who reside in Anchorage and the Mat-Su Valley.¹⁰⁶ While that may be true, the argument

¹⁰³ AS 16.05.251(e)(7)

¹⁰⁴ Southwick Associates, Inc., et al., xiii

¹⁰⁵ In 2007, nonresident anglers spent \$428 million during trips to Alaska. Source: Southwick Associates, Inc., et al., xix

¹⁰⁶ Maw, Roland, Ex. Dir. United Cook Inlet Drift Association, *Letter to the Legislative Task Force*, January 23, 2009, 1; “The residents of the Anchorage and Matanuska-Susitna Basin are the major harvesters of Kenai and Kasilof sockeye salmon. Combined harvest levels in the personal use and sport

fails to address the central issue of whether or not the overall allocation of Upper Cook Inlet salmon resources is fair. The fact that residents of Anchorage and the Mat-Su benefit from sharing in the 18% of the harvest allocated for sport/personal use, does not mean that the current 82/18 split between commercial and sport/personal uses is fair.

Moreover, in Mat-Su Valley fisheries the harvest allocation disparity is even more pronounced. 97% of the sockeye harvest is taken by commercial fishermen and only 3% by sport.¹⁰⁷ In addition, recent conservation concerns have resulted in no Northern District "personal use" fishery for a decade and sockeye retention restrictions on Mat-Su Valley sport fishermen in four of the past five years.¹⁰⁸ To suggest that the 83,000 Alaskans who live in the Mat-Su Valley are provided a reasonable opportunity to "participate" in the use of the UCI salmon resource by traveling hundreds of miles to the Kenai Peninsula to share in the limited sport/personal use allocation there; while at the same time up to almost 60% of their native Susitna Valley sockeye run each year is harvested by Kenai commercial fishermen is, at best – unconvincing.¹⁰⁹

fishery approach 400,000-500,000 fish and most of this harvest is from residents outside the Kenai Peninsula area."

¹⁰⁷ Rutz, David, ADF&G, 21

¹⁰⁸ *Ibid.*, 26; Fair, Lowell, and Hasbrouck, James, ADF&G, memorandum to Hilsinger, John, and Swanton, Charles, ADF&G, *Upper Cook Inlet Stocks of Concern Recommendation*, September 25, 2007, 3

¹⁰⁹ The run size equals the total harvest/catch + escapement (e.g.: the total number fish that returned to that year). According to 2008 ADF&G age composition model estimates, 8.4% of the total 2.9 million annual UCI sockeye commercial harvest is Susitna sockeyes. That means roughly 243,600 Susitna Salmon are harvested annually by UCI commercial fishermen – thus equivalent to 58% of the total average run of approximately 417,559 Susitna sockeyes (run estimate = commercial harvest estimate of 243,600 + 173,959 average escapement/spawners during the years 2003-2007). Source: Fair, follow-up on Yentna, 4-5. Very recent data supplied to the Task Force by ADF&G, however, lists the average Susitna sockeye commercial harvest much lower at 129,202 fish per year, which would equal roughly 4.4% of the total UCI sockeye harvest. Based on that figure, 42% of the total annual Susitna sockeye run is harvested by commercial fishermen. ADF&G provided no documentation regarding what the new, lower harvest rate

The restrictions placed on Mat-Su Valley sport and personal use sockeye salmon fisheries effectively closed those fisheries and denied valley residents any chance to “use” the sockeye salmon resource closest to their homes, while commercial fishermen near Kenai continued to harvest over half of the entire northbound Susitna sockeye run despite growing conservation concerns.

It’s not clear to the Task Force why the burden of conservation of Northern District sockeye salmon seems to have disproportionately fallen on the “user” allocated the smallest portion of the harvest – the sport/personal use segment, which amounts to only 3% of the harvest. Such restrictions by the BOF and fishery managers appear to run counter to the Alaska’s Sustainable Salmon Fisheries Policy which makes it clear that as a general rule the “burden of conservation”, when necessary, shall be born by users of the resource proportionate to their respective use.¹¹⁰ With 97% of the Northern District sockeye harvest taken annually by commercial fishermen, it would seem that most – if not all – of the burden of conservation would fall on them.

was based on. **See Appendix, Spreadsheet #.** Detailed historical UCI sockeye commercial harvest and escapement records can also be found at

<http://www.cf.adfg.state.ak.us/region2/finfish/salmon/uci/ucishist.php>.

¹¹⁰ 5 AAC 39.222(c)(4)(D)(SSFP): “an understanding of the proportion of mortality inflicted on each salmon stock by each user group, should be promoted, and the burden of conservation should be allocated across user groups in a manner consistent with applicable state and federal statutes, including AS 15.05.251(e) . . . ; [I]n the absence of a regulatory management plan that otherwise allocates or restricts harvests, and when it is necessary to restrict fisheries on salmon stocks where there are known conservation problems, the burden of conservation shall be shared among all fisheries in close proportion to each fisheries’ respective use.” *See also* 5 AAC 39.220(b) (Mixed Stock Salmon Management Policy): “[T]he burden of conservation shall be shared among all fisheries in close proportion to their respective harvest on the stock of concern.”

ADF&G has not provided an explanation except to say that by the time the Northern District run reaches the Susitna drainage 10-14 days after passing Kenai, it's too late to affect closures of commercial fisheries that may be intercepting the fish.¹¹¹ But even if one accepts that explanation, it's hard to understand how eliminating 3% of the harvest (by sport fishermen) is going to have any significant "conservation" effect on the stock. It seems incumbent upon ADF&G to develop a more proactive conservation approach consistent with the SSFP requirement that the burden of conservation be born proportionate to each user's share of the harvest.

UCI Sockeye Salmon Management Plans: "Primarily for Commercial Uses" to "Provide Commercial Fisherman with an Economic Yield"

There's no doubt that Upper Cook Inlet salmon allocation decisions are shaped in large part by current management plans that dictate that the most abundant Upper Cook Inlet salmon species be managed primarily for the 'economic benefit of commercial fishermen.' With the exception of early run Russian River sockeyes, current management plans require that ADF&G manage the UCI sockeye runs primarily for the benefit of commercial fisheries.¹¹² In essence, the species that constitutes over 83% of the total Cook Inlet salmon run, and most of the economic harvest value, is managed

¹¹¹ Fair, Lowell, and Hasbrouck, James, ADF&G, *Upper Cook Inlet Stocks of Concern Recommendation*, September 25, 2007, 3

¹¹² 5 AAC 21.358(a): "The department (ADF&G) shall manage the chum, pink, and sockeye stocks primarily for commercial uses to provide commercial fisherman (sic) with an economic yield from the harvest of these salmon resources based on abundance." See also, Hilsinger, John, Dir. Div. of Commercial Fisheries, ADF&G, PowerPoint presentation, *Legislative Task Force Overview of Upper Cook Inlet Salmon Management & Management Plans*, 15-16, 20; "Sockeye, chum, and pink salmon stocks, which move through UCI (mid-July to Aug), will be managed primarily for commercial uses."

'primarily for the economic benefit of commercial fishermen,' who represent less than 1% of all users of the UCI salmon resource.¹¹³

That fact alone raises serious doubt about the current management of Cook Inlet salmon fisheries. It's difficult for the Task Force to understand the justification for management practices that consolidate almost total control of a resource, and confer almost total benefit of that resource, to such a small fraction of the population. Without more time for investigation and further information, the Task Force could not determine the justifications for such management practices and directives.

Assumably, the allocation of UCI sockeye salmon almost exclusively to "commercial fishermen" is based on the need to ensure the sustainability of UCI salmon runs by preventing maximum escapement levels from being exceeded. But that justification assumes that commercial fishermen are the only segment of potential users of the resource that can harvest sufficient quantities to maintain desired escapement levels. Given Southcentral Alaska's rapidly growing population, that assumption may no longer be valid. With 415,000 potential users of the resource currently living along the shores of Cook Inlet, and the population growing at a rate of 7-40% per year,¹¹⁴ it's likely that increased allocations to the sport and personal use segments of the fishery could help achieve, to some large degree, the same management goals with regard to maintaining maximum escapement levels. Daily sport bag limits could be increased and personal

¹¹³ Harvesting and processing sector combined = only 2.4% of all users of the UCI salmon resource.

¹¹⁴ US Census Bureau 2007 estimates; Anchorage: 7.5%; KPB: 6.9%; Mat-Su: 39.4%

use fisheries expanded to allow more Alaskans to utilize the resource as a means to put food on their tables.

Another factor that may be part of the BOF's justification for managing Cook Inlet's most valuable salmon stock almost exclusively for the benefit of commercial fishermen is the recognition that economic conditions are increasingly difficult for the Upper Cook Inlet commercial fishing industry. Serious overcapitalization in the fishery, globalization of the market and increased competition from farmed fish production, rising fuel prices, and credit tightening due to a worsening US economy have all impacted profitability and led a significant decrease in UCI commercial salmon fishing permit values.¹¹⁵ Major shifts in sockeye allocations therefore could undermine the continued viability of a large segment of the UCI commercial fishing industry.

But that fact alone is not justification for ignoring the Constitutional rights of the vast majority of the resource users – to have reasonable access to, and benefit from, the resource.

Also, the difficult current economic circumstances of the UCI commercial salmon industry does not mean that any shift in allocations would necessarily destabilize the industry. To the extent a major shift in allocations might, the risk could be offset by buying back some UCI commercial fishing permits to reduce competition in a fishery that

¹¹⁵ *KRSA Executive Summary*, ES 9: "Current values of commercial salmon permits in Cook Inlet are about one-tenth (10%) of the all-time high values in the late 1980's and early 1990's." For current Cook Inlet commercial drift and setnet harvest and permit values and values during 1998-2007, see Twomley, Bruce, *Report to the Cook Inlet Salmon Task Force on the Buy-Back Program under the Alaska Limited Entry Act*, October 7, 2008, Attachments A-B

is overcapitalized¹¹⁶ – and thereby increase profitability and permit values for those remaining. As will be discussed later in this report, the option to buy-back UCI commercial fishing permits under the Alaska Limited Entry Act¹¹⁷ is arguably a viable legal option available for legislative consideration.

But current Upper Cook Inlet sockeye management plans, might not survive a legal challenge. Management plans that by design, or in practice, allocate 82% of a resource's yield to just 2.4% of all resource users appear in conflict with both the Alaska Constitution (Art. VIII) and AS 16.05.251(e).

In addition, the Task Force heard testimony that Cook Inlet management practices designed specifically to benefit commercial salmon fisheries have an adverse impact on sport and recreational users of the resource. As The Kenai River Sport Fishing Association has pointed out:

“The success of recreational fisheries relies not only on receiving an appropriate share of the salmon harvest but also on receiving those fish in a way that is meaningful to recreational users. Recreational fisheries management is based on providing anglers predictable opportunities to harvest a meaningful number of fish incrementally over the entire course of the fishing season. Management practices that optimize commercial

¹¹⁶ In Cook Inlet 25 commercial salmon permits are fished for every 100,000 pounds of fish harvested, compared to 3 permits fished to harvest the same amount in other Alaskan salmon fisheries. Source: *KRSA Executive Summary*, ES 6, “Comparison of Upper Cook Inlet percentages of commercial salmon caught and permits fished statewide indicate that commercial salmon fishing effort is disproportionately concentrated in Upper Cook Inlet.”

¹¹⁷ AS 16.43.010-990

fisheries harvests in Upper Cook Inlet often negate management practices that sustain recreational fisheries.”¹¹⁸

The negative implications of such fishery management policies also impact the Kenai Peninsula Borough and Alaska’s tourism industry generally. If recreational access to the bulk of the Cook Inlet salmon resource is confined mostly to early and late species runs, local tourism, hospitality and other businesses are faced with several boom and bust cycles during the peak summer tourism season. In addition, the adverse impact on river habitat and local wildlife is significantly magnified by “combat fishing” stampedes caused by current management practices.

Upper Cook Inlet Salmon Allocations: Summary

On balance, application of the allocation factors listed in statute in AS 16.05.251 to current Cook Inlet salmon allocations suggest that the 82/18 split of the harvest in favor of commercial fishing is not only unfair, but may be unconstitutional. While each segment plays a valuable role in the region’s economy, the sport and personal use segments of the fishery generate an “economic impact” greater by a factor of at least 6-1 – and a total “economic contribution” to the region and Alaska many times that.¹¹⁹

In addition, other factors indicate the current disproportionate allocations are not just. The growing number of potential Alaskan users of the resource; their dependence on it to obtain fish for personal and family consumption; the lack of reasonable alternatives; and

¹¹⁸ *KRSA Executive Summary*, ES 11

¹¹⁹ This important aspect of UCI salmon allocations is discussed in the next section of the report

the critical importance of Inlet Cook Inlet salmon fisheries for recreational opportunities for residents and non-residents all weigh heavily in favor of greater allocations to sport/personal uses. Any reasonable application of the allocation policy criteria articulated in AS 16.05.251(e) suggests that sport and personal use fisheries should be assigned a much higher allocation priority than they currently receive in the Upper Cook Inlet salmon fisheries.

Ironically, the current lopsided allocations with most of the resource reserved for only a fraction of the population appear to create the same disproportionately concentrated and unfair consumption of a state fishery resource that the Constitution was specifically designed to prevent.

At the same time, it must be recognized that major allocation shifts may not be advisable. To some extent achieving "maximum benefit" requires maximum utilization of the resource yield and it's doubtful that increases to the sport/personal use segment could achieve the kind of harvest levels currently attained by commercial fishing. To the extent the UCI salmon yield was not fully harvested, there would be lost "economic benefit" to Alaska. There would also be potential damage to the resource ecosystem from overescapement – if that management theory is scientifically valid.

It's also very likely that some combination of UCI sport and commercial fishing generates a greater overall economic benefit for Alaska than either could generate alone. The mere fact that the number of nonresident sportfishing tourists has increased

dramatically in the past 15 years – despite the disparity in current allocations – demonstrates that the allure of salmon fishing in Alaska is drawing hundreds of millions of new dollars into the state each year and would continue to do so even under current allocations. In other words, there's no guarantee that putting more fish in the rivers would translate into more tourists and additional new money coming to Alaska to offset the loss of UCI commercial fishing revenues and taxes. At least not in the near term. It's reasonable that over time that might be the case as word spread about increased sportfishing opportunities and successes in Alaska – but it would presumably take several years for any “additional” new economic impact from nonresident spending to materialize.

On the other hand, the negative economic impact of a reallocation would be felt immediately by the commercial fishing sector. The Task Force had no opportunity to review economic data (if any exists) that assesses the likely negative impact potential allocation shifts might have on the UCI salmon fishing industry – particularly UCI salmon permit holders. Prudence demands that such analysis precede any major re-allocations.

The analysis should include identification of all factors that have contributed to the recent steep decline of the UCI commercial salmon fishing industry, including the impact any past salmon reallocations may have had. If prior reallocations have affected the industry's profitability in a significant way, the cause and effect relationship needs to be analyzed. But the analysis should also identify the degree to which other key factors are

affecting the UCI commercial salmon fishery. Because clearly the UCI commercial salmon fishing industry is struggling despite the fact that it is awarded the bulk of the harvest. Thus, allocations can't be a major cause of the industry's current problems. Future allocations may be less determinative to the industry's continued viability, therefore, than other factors outside of state control. Factors that are impacting the commercial industry's viability now will continue to do so until steps are taken to address them.¹²⁰ The size of future allocations thus might have less economic effect than other variables like overcapitalization of the fishery and increasing international competition from farmed fish. Those issues could be addressed as part of a reallocation decision if accurate, comprehensive data on the commercial fishery was available.

It's possible the BOF has already undertaken such an analysis. If not, an economic study should be commissioned and completed prior to the next BOF UCI meeting in 2011. Alaska policy makers and UCI commercial fishing families deserve that information. The data might illuminate ways to help the struggling industry generally,¹²¹ and allow policy makers to anticipate and mitigate any adverse impacts future reallocations may have.

Another important consideration in Upper Cook Inlet salmon allocations is the extent to which aggressive prosecution of the UCI commercial sockeye salmon fishery may be

¹²⁰ In 2007, only 900 commercial permits were fished out of 1309 issued for Upper Cook Inlet. In 2006, only 878 were fished. Source: ADF&G Commercial Fishing Limited Entry Commission

¹²¹ For example, determine the extent of overcapitalization and ways to alleviate it; identify precisely factors that are impacting profitability and permit values; explore ways to improve marketing, industry efficiency and global competitiveness, etc.

contributing to the sharp declines in Northern District Susitna sockeye salmon stocks – and thereby threatening the continued sustainability of those fisheries. That issue needs more investigation. The Task Force could not make any determination on that issue based on the limited time and ADF&G data available. ADF&G estimates that Susitna sockeyes make up 8.4% of the Upper Cook Inlet commercial catch. But they admit the reliability of the data is suspect.¹²²

Nonetheless, the Susitna fisheries lie at the heart of one of Alaska's fastest growing regions – where population growth is currently projected at four times the state average.¹²³ The Susitna salmon fisheries are without question a critical resource to more than 83,000 Alaskans who currently live in the Mat-Su valley.

To the extent current UCI salmon management practices that favor commercial fisheries threaten the sustainability of Northern District salmon stocks – the practices must change. If unintended interception or over-exploitation of Susitna sockeye stocks by commercial fishermen is contributing to the stock's decline, then steps for mitigating the interception are not just needed – but Constitutionally mandated.

¹²² ADF&G, Susitna Plan, 2008, 2, "Since the total Upper Cook Inlet (UCI) commercial harvest averages 2.9 million sockeye salmon and the age composition allocation model estimate of the Susitna sockeye salmon harvest is only 8.4% of the total, the department has low confidence in the accuracy of our estimate of the Susitna sockeye salmon harvest."; Fair, Lowell and Hasbrouck, James, ADF&G, *Upper Cook Inlet stocks of concern follow-up on Yentna River sockeye salmon*, 3, "Unfortunately, the allocation methodology used to apportion sockeye salmon catches to component stocks in UCI represents a coarse approximation of the actual catch by stock."

¹²³ The US Census Bureau estimates 2007 state population growth at 9%, but the Mat-Su Borough at nearly 40% (39.4%)

In short, while the Upper Cook Inlet salmon allocation issue is complex, many facts tend to speak for themselves. The framers of Alaska's Constitution made resource sustainability the highest priority. Second they mandated that resources be held for the common good, and utilized in a manner that maximizes benefit to Alaskans. Yet in Upper Cook Inlet, current salmon allocations award 82% of the harvest to less than 3% of all users – and most of the entire harvest value, to less than 1% of the region's population.

Undeniably, Alaska's commercial fishermen are valued members of our communities. They are an important part of Alaska's heritage and one of the "beneficial user" groups the framers of the Constitution were trying to protect. Yet ironically, it appears that with regard to Upper Cook Inlet salmon allocations, the wagon seems to have come full circle. A vital Alaskan salmon resource is once again controlled by relatively few, to the exclusion of many. And based on the limited Task Force review, it's hard to find reasonable justifications for the current disproportionate allocations.

Without further examination, it's not possible for the Task Force to determine whether or not current BOF policies for Upper Cook Inlet salmon allocations comply with the statutory guidelines of 16.05.251(d)-(e). That determination will have to be reserved for a future examination, as the Task Force simply had insufficient time to fully explore the

issue and draw firm conclusions regarding the fairness of the current Upper Cook Inlet salmon allocations.¹²⁴

But current BOF management plans and practices that dictate management of the largest segment of the Cook Inlet fishery 'for the economic benefit of commercial fishermen' raise doubt that the current allocations reflect a totally unbiased weighting of the factors listed in 16.05.251(e). Moreover, compelling data presented to the Task Force regarding the significant economic and non-economic benefit to Alaskans from Upper Cook Inlet sport and personal use salmon fisheries creates additional doubt regarding whether many of the factors specified in 16.05.251(e) were given due consideration by the BOF.¹²⁵

It may be that much of that information was not available to the Board of Fisheries when the Upper Cook Inlet salmon allocation issue was last addressed. Nevertheless, increasing concerns over sustainability of Northern District sockeye stocks, and any reasonable application of the factors listed in AS 16.05.251(e), suggest that current Upper Cook Inlet salmon management practices and allocations may not be in compliance with the Constitution, state statutes, or Alaska's Sustainable Salmon Fisheries Policy – and

¹²⁴ As testimony to the Task Force pointed out, "The Board of Fisheries (BOF) appropriately considered thousands of pages of written materials and public testimony before rendering its (UCI salmon allocation) regulatory decisions." See (UCIDA), *Proposed Findings for the Upper Cook Inlet Joint Legislative Task Force*, 2, Prop. Finding 14

¹²⁵ An excellent recommendation was made to the Task Force that the BOF be provided with staff economists to help with analysis of the complicated socio-economic considerations listed in AS 16.05.251. It was pointed out that the equivalent federal regulatory body, the North Pacific Fishery Management Council, has several economists and researchers on staff to help identify the socio-economic impacts of potential allocation decisions. See Kluberton, Tom, Chair Matanuska-Susitna Mayor's Blue Ribbon Sportsmen's Committee, *Letter to The Joint Legislative Cook Inlet Salmon Task Force*, 2

therefore should be the focus of further investigation and legislative review prior to the next Board of Fisheries Upper Cook Inlet review in 2011.

V. The Economic Impact of Upper Cook Inlet Salmon Fisheries

The most recent data on the economic impact of Upper Cook Inlet salmon fisheries was published in late 2008 and early 2009, and only made available to the Task Force at its final meeting in January.¹²⁶ As a result, there was no opportunity for in-depth consideration of the data by Task Force members.¹²⁷ Nevertheless, with some assistance from University of Alaska economist Gunnar Knapp, the Task Force was able to review briefly the economic contributions and impacts of Upper Cook Inlet salmon fisheries. In addition, during preparation of this report, significant additional time was available for analysis of the economic studies and compilation of data from ADF&G.

What is immediately clear is that both the Upper Cook Inlet sport and commercial salmon fisheries have a major economic impact on the region and Alaska. An overview of the economic "impacts" and "economic contributions"¹²⁸ of each type of fishing activity is

¹²⁶ Northern Economics, Inc., *The Seafood Industry in Alaska's Economy*, January 2009; Southwick Assoc., Inc. et al., *Economic Impacts and Contributions of Sportfishing in Alaska, 2007*, ADF&G Prof. Pub. No. 08-01, December 2008

¹²⁷ The major recent study on the economic impact of sport fishing in Alaska was published by ADF&G in December 2008 and is 289 pages long. The most recent major study of the economic impact of commercial fishing in Alaska was published in January 2009 and is 79 pages long.

¹²⁸ Economists consider new money brought into a state or region as direct "economic impact," whereas the benefits of that money circulating within the state or region (creating additional income and jobs) are considered "economic contributions." See Knapp, Gunnar, *Comparison of Recent Sport and Commercial Fisheries Economic Studies*, 2009, 9, "Sales of an industry to non-residents bring new money into the economy and increase the size of the economy. Sales of an industry to residents don't necessarily bring new money into the economy and don't necessarily increase the size of the economy."

presented below, while the full executive summaries of each economic study can be found in the Appendix to the Task Force report.¹²⁹

Sport Fishing Economic Contributions and Impacts (2007)

According to a major new economic study conducted for ADF&G, in 2007 statewide spending on sportfishing totaled \$1.4 billion.¹³⁰ That figure includes spending by 475,534 resident and nonresident anglers¹³¹ on licenses, taxes, trips and packages, fishing and fishing related equipment, and real estate construction and maintenance used primarily for sportfishing.¹³² Spending by nonresident sportfish anglers in 2007 created a direct economic impact¹³³ of \$653 million for Alaska, which supported 9,437 jobs and generated \$67 million in state and local tax revenues.¹³⁴

ADF&G's Sportfish Division website notes the study found:

"The regional distribution of spending by anglers generally follows the distribution of total days fished in Alaska, with most angler spending occurring in the Southcentral region (72%), followed by the Southeast and the Interior regions with 20% and 7% of total angler spending respectively. Total expenditures on guided sportfishing activities in 2007 totaled \$416 million, which resulted in \$641 million in total economic

¹²⁹ The Appendix to the Task Force report also contains the full executive summary of the Kenai River Sport Fishing Association economic report

¹³⁰ Southwick Assoc., Inc., et al., xvi

¹³¹ *Ibid.*, xiii, Table E3. The study found that 60% of licensed anglers were nonresidents, while 40% were Alaskans

¹³² *Ibid.*

¹³³ Spending by nonresident sportfish anglers – or "new money" brought into Alaska's economy

¹³⁴ Southwick Assoc., Inc., et al., xvi-xvii

activity and supported 7,183 jobs. Resident anglers spent an average of \$150 per day of sportfishing activity on trip-related expenses in 2007, while nonresident anglers spent an average of \$448.¹³⁵

Statewide sportfishing spending by resident and nonresidents combined generated \$354 million in direct income (wages/etc.) to 11,080 full and part time employees and proprietors who worked in Alaska businesses whose products were purchased by anglers.¹³⁶ By applying multipliers, the study determined that the economic activity of that spending as it circulated through the economy produced a total of \$545 million in wages, which supported 15,879 full and part time jobs statewide, and provided \$123 million in tax revenues for local and state governments.¹³⁷

Significantly, the ADF&G study found that approximately three-fourths of all sportfishing and sportfish spending took place in Southcentral Alaska.¹³⁸ Resident and nonresident sportfish anglers spent a total of \$989 million in Southcentral Alaska in 2007 – with \$733 million of that spent in the Cook Inlet region.¹³⁹

In Southcentral, sportfish spending generated \$240 million in direct income to 7,897 full and part time employees and proprietors of businesses whose products were purchased by

¹³⁵ <http://www.sf.adfg.state.ak.us/statewide/economics/>

¹³⁶ Southwick Assoc., Inc., et al., xvi-xvii

¹³⁷ *Ibid.*

¹³⁸ *Ibid.*, 109, “Approximately three-quarters of all fishing (69%) and spending (72%) in Alaska took place in the Southcentral region.”

¹³⁹ *Ibid.*, xix-xxi, 109. The amount does not include license and stamp fees paid to the state. Of the \$989 million spent on sportfishing in Southcentral, residents accounted for \$561 million and nonresidents \$428 million (xx, Table E10)

anglers.¹⁴⁰ \$428 million in spending by nonresidents supported 4,329 of those jobs and generated \$131 million of the direct wage/income.¹⁴¹

Applying economic multipliers, the study estimated that sportfish spending in Southcentral Alaska generated economic activity that provided a total of \$386.5 million in income and \$91 million in taxes for local and state governments, while supporting 11,535 jobs.¹⁴²

Cook Inlet Sportfish Economic Impact and Contributions:

The ADF&G study also broke out Cook Inlet as a subregion of Southcentral. It found that \$733 million in spending there provided \$172 million in direct income to 5,282 full and part employees and proprietors of businesses whose products were purchased by anglers.¹⁴³ Cook Inlet sportfish spending also generated \$55 million in taxes for state and local governments.¹⁴⁴

Residents accounted for the largest share of sportfish spending in Cook Inlet, accounting for \$458 million of the \$733 million total, while nonresidents spent \$275 million.¹⁴⁵

¹⁴⁰ *Ibid.*, xx

¹⁴¹ *Ibid.*, Table E10

¹⁴² *Ibid.*, xix-xxi, 68-78, 109

¹⁴³ *Ibid.*, 96

¹⁴⁴ *Ibid.*, 100, Table 68

¹⁴⁵ *Ibid.*, 91, Table 60. Statewide, residents accounted for \$733 million of the \$1.4 billion sportfishing spending, with nonresidents spending \$653 million, *Ibid.*, xvi

Applying economic multipliers, the study found that sportfishing spending in Cook Inlet generated a total of \$279 million in wages that supported 8,056 full and part time jobs.¹⁴⁶

On average, sportfish anglers spent \$245 per day of fishing for all fishing trip or package related purchases (fuel, groceries, fishing gear, lodging, restaurants, etc.) in Cook Inlet.¹⁴⁷ Nonresident spending on such items was significantly higher at an average of \$376 per day, while Alaska residents spent an average of \$162 per day of fishing.¹⁴⁸ But Alaskans spent significantly more on an annual basis for sportfishing equipment than did nonresidents (\$1,745 compared to \$329).¹⁴⁹

While the ADF&G study did not differentiate economic contributions and impacts from various types of sportfishing (e.g.: salmon, trout, halibut) it did break out percentages for fresh water and salt water sport fishing; and the percentage of guided and unguided angler days. That data facilitates reasonable conclusions regarding to the economic impacts and contributions from sport fishing in the Cook Inlet salmon fisheries.

For example, the study found that in Cook Inlet 80% of the angler days were spent fishing in fresh water – and only 20% in saltwater.¹⁵⁰ Moreover, 81% of all Cook Inlet sportfish angler days were spent “unguided.”¹⁵¹ Combined, that data indicates that only a small percentage of Cook Inlet sportfish spending involved anglers fishing for species

¹⁴⁶ *Ibid.*, xx, 90-100, 109

¹⁴⁷ *Ibid.*, 92, Table 61, “Trip-related expenses refer to spending for temporary or consumable goods and services that anglers make while on a particular fishing trip.”

¹⁴⁸ *Ibid.*

¹⁴⁹ *Ibid.*

¹⁵⁰ *Ibid.*, 41, Table 13

¹⁵¹ *Ibid.*, Table 14

other than salmon (like halibut or rock fish). With fully 80% of all angler days in Cook Inlet spent fishing in “freshwater” – and without guides – it’s reasonable to assume that at least 3/4 of all sportfishing activity and spending in Cook Inlet involved the Upper Cook Inlet salmon fisheries.¹⁵²

Sportfishing Summary: In 2007 sportfish angler spending in the Upper Cook Inlet salmon fisheries generated a direct “economic impact” of more than \$209 million for the region and Alaska.¹⁵³ When combined with resident spending in the fisheries, the total “economic contribution” of the Upper Cook Inlet sport fisheries was approximately \$630 million.¹⁵⁴

Commercial Fishing Economic Impacts (2006-2007)¹⁵⁵

Undeniably, the seafood industry today plays a major role in Alaska’s economy – as it historically has. A major new economic study by Northern Economics published in January 2009 found that the seafood industry ranks 3rd in importance behind only oil and gas and the federal government in terms of generating basic economic activity in Alaska.¹⁵⁶ It also found that the ex-vessel value of Alaska’s overall commercial seafood harvest was \$1.55 billion, with value-added processing activity bringing the total

¹⁵² While trout and grayling fishing no doubt constituted a percentage of “freshwater” angler days, it’s probable that the percentage for those species is exceeded by the percentage of salmon fishing days included in the 20% guided and unguided “saltwater” days (e.g.: Deep Creek, Kasilof)

¹⁵³ Figure = 75% of \$279 million in nonresident spending in Cook Inlet (or \$209.25 million).

¹⁵⁴ Figure = 75% of \$561 million resident sportfish spending in Cook Inlet (or \$420.75 million) plus \$209 million in nonresident spending (or \$630.25 million)

¹⁵⁵ The Northern Economics study used data from either 2006 or 2007 depending on whichever was the most recent data available; Northern Economics, Inc., 1

¹⁵⁶ Northern Economics, Inc., ES 2

wholesale value – or “economic impact” – of Alaska’s commercial seafood industry to \$3.6 billion.¹⁵⁷ The study noted that seafood is Alaska’s top international export and amounts to roughly half of Alaska’s total export value.¹⁵⁸

But the data presented in the Northern Economics study represented the value of all commercial seafood species harvested statewide, not just salmon – and include harvesting and processing activity in both state and federal jurisdictions. In both the harvesting and processing sectors, a majority of the economic activity took place in waters under federal jurisdiction.¹⁵⁹

Also, while the Northern Economics study did contain data on the percentage of statewide economic impact for each seafood species (e.g.: salmon,¹⁶⁰ halibut, crab, etc.), the study did not break out economic impacts for each species – by region. The study also cautioned that species-specific wholesale values (e.g.: economic impact of salmon) should not be correlated directly to ex-vessel values because of data inconsistencies and the nature of wholesale transactions where sales may occur in different years from harvests.¹⁶¹ Thus, it’s not possible to determine from the Northern Economics study what

¹⁵⁷ *Ibid.* Thus the average increase among all species of seafood value from ex-vessel to first wholesale is thus 132% (\$1.55 billion to \$3.6 billion)

¹⁵⁸ *Ibid.*

¹⁵⁹ *Ibid.*, 28-29. The study found that 32% of the \$1.55 billion harvest ex-vessel value was in Alaska jurisdiction (or \$496 million), while 58% of the value was harvested in waters under federal jurisdiction and 10% in jointly controlled waters. For processing the figures were 63% federal jurisdiction, 32% state and 5% joint

¹⁶⁰ *Ibid.*, 25. The Northern Economics study found that statewide, salmon represented 29% of the total \$3.63 billion Alaska seafood first wholesale value (“economic impact”) – or just over \$1 billion

¹⁶¹ *Ibid.*, 25, 4.2.2. For example, in UCI salmon harvests in 2005-2006 were about double the recent five year average, and its likely that surplus product was carried over and sold in the following year

economic impact is attributable to just the Upper Cook Inlet commercial salmon fishing industry.

But it is possible another way. The annual and average economic impact of the Upper Cook Inlet commercial salmon fishing industry can be determined by using a combination of ADF&G harvest data and wholesale sales data submitted to the state by seafood processors.¹⁶²

In his presentation to the Task Force Prof. Knapp estimated the total economic contribution and impact of the UCI 2007 commercial salmon harvest to be approximately \$77 million.¹⁶³ Unfortunately, his assessment relied on data that was inapplicable. The ADF&G data supplied to Prof. Knapp included the wholesale value of salmon processed in both Upper and Lower Cook Inlet – and salmon that had been harvested in other fisheries/regions (i.e.: Bristol Bay). In fact, the 43.5 million pounds of “processed” salmon that constituted the \$77 million dollar wholesale value he relied on was more than double the total salmon poundage harvested in all of Cook Inlet that year (26.1 million).¹⁶⁴

The discrepancy resulted mainly from the fact that the processor “Commercial Operator Annual Report” (COAR) Prof. Knapp relied on for his analysis did not separate Upper

¹⁶² Processors submit “Commercial Operator Annual Reports” (COAR) reports to ADF&G which details product net weight and wholesale value/price per pound. The information is available by request in aggregate form for each region (production/price of specific, individual processors is not released to the public for confidentiality reasons)

¹⁶³ Knapp, *Comparison*, 24, note **

¹⁶⁴ <http://www.cf.adfg.state.ak.us/geninfo/finfish/salmon/catchval/blusheet/07exvesl.php>; Upper and Lower Cook Inlet combined harvest was 26.1 million pounds of fish in 2007.

Cook Inlet processors from lower Cook Inlet processors. A sort of the same data, but separating out Upper from Lower Cook Inlet processors reveals that product volumes processed by Upper Cook Inlet processors tend to track very closely with UCI harvest levels, while product volumes produced at Lower Cook Inlet processors shows no correlation to either Upper or Lower Cook Inlet harvest levels and likely represent salmon harvested in other regions (i.e. Kodiak, Bristol Bay, etc.) and shipped to LCI for processing.¹⁶⁵

In contrast in 2007 Upper Cook Inlet processors produced 14.6 million pounds of product valued at \$31.3 million wholesale.¹⁶⁶ That processed poundage correlates very closely with Upper Cook Inlet commercial salmon harvests that year. The 2007 UCI harvest of 19.5 million pounds of salmon would translate into roughly 14-15 million pounds of processed product.¹⁶⁷ Thus, based on the wholesale price data of the UCI processors in

¹⁶⁵ For example, the annual harvest of Lower Cook Inlet is only a few million salmon each year. But the 2007 "combined" COAR data provided to Professor Knapp included 28.9 million pounds of finished "product" produced at Lower Cook Inlet processors. That amount of "product" exceeds both the total 2007 UCI total salmon harvest weight of 26 million pounds – and was more than double the final processed weight of all 2.9 million UCI salmon harvested that year (approx. 14.3 million pounds based on 73.5% round fish to finished product). Thus, the COAR data for LCI processors that year likely included more than 5-6 million salmon harvested outside of Cook Inlet. For years 1998-2007 processing activity at Lower Cook Inlet plants indicates a similar pattern with many more fish processed than harvested in the region.

¹⁶⁶ ADF&G, COAR 4/1/09, *Wholesale Value of Salmon for Upper and Lower Cook Inlet for the Years 1998-2007*, supplied at Chairman Johnson's request.

¹⁶⁷ Processed weight for sockeyes is approximately 70-76% of total fish weight depending on how the fish is processed. If the fish is headed and gutted/frozen, it produces a finished product of about a 76% of the "round," ex-vessel fish weight. If canned, the product yield is closer to 70-71% of the round poundage. See for example, Nelson, Stuart, *Fraser River (BC, Canada) Sockeye Salmon Benchmark Study*, March 2006, 29. While much of Alaska sockeye is canned, specific percentages are confidential and both product types are produced. Without more precise information on UCI processor products, a 73.5% finished product yield average was used (e.g.: average of canning vs. head/gutted yields). Thus, the 2007 UCI commercial salmon harvest of 19.5 million pounds would yield approx 14.3 million pounds of processed product (73.5%). UCI processor reported 14.6 million pounds for that year. **Note:** The estimate for round fish weight to finished product weight for all species of US salmon is only 55%. See Knapp, Gunnar,

2007, the “economic impact” of the Upper Cook Inlet commercial salmon fishery was approximately \$30.7 million.

So while ADF&G COAR data can be misleading because processors process fish from different fisheries at the same plant, a careful review of production volumes at only “Upper Cook Inlet” processors indicates a very close relationship to UCI harvests in recent years. For example, the 2006 UCI commercial harvest of 15.4 million pounds of salmon should have produced roughly 11-12 million pounds of product depending on the product line. The COAR data shows 12.4 million produced by UCI processors that year, for a value of \$30.3 million – thus another close match of UCI harvest levels to UCI processor output.¹⁶⁸

Projections of Future Bristol Bay Salmon Prices, UAA ISER study prepared for the Alaska Commercial Fisheries Entry Commission (CFEC), October 2004, II 6, Table II-2. Without specific data on US “sockeye” production ratios, the higher yield estimates from Fraser River study has been used for the purposes of this report. But a yield ratio of only 55% would result in an approximately 25% reduction in the economic impact of the UCI fishery, or roughly an average wholesale value of approximately \$27.5 million for the period 2002-2007; and \$21.1 million for the most recent 10 year period (1998-2007). As most of the UCI yield is sockeye salmon (93%), the Fraser River data which was also “sockeye” should be more comparable.

¹⁶⁸ ADF&G, COAR 4/1/09, *Wholesale Value of Salmon for Upper and Lower Cook Inlet for the Years 1998-2007*. The 2002-2007 UCI processor finished product data correlates very closely with UCI harvests, usually within 10% of projected weight. Further only in two of those years, where there were banner UCI harvests (2004, 2005) did the processor output/capacity not meet harvest round to finished product ratios – meaning some UCI fish were likely shipped out to other regions. But in most years, the processing output was a near match or slightly higher, so it’s reasonable to assume that UCI salmon are normally processed near where they are harvested in UCI at the wholesale prices listed by UCI processors for each year. Even if that were not the case, UCI processor wholesale prices for the period 2002-2007 averaged \$1.89 lb. while the statewide average sockeye wholesale price for the period was \$2.21 (14.5% higher). Even using the higher statewide sockeye wholesale average for the entire UCI harvests for the period 2002-2007, you get an average first wholesale value or “economic impact” for the fishery that is only \$4.6 million dollars higher, or \$41 million, as compared to the more likely \$36.6 economic impact average derived by using UCI processor prices. Source: Ibid.; ADF&G, COAR 4/1/09, *Yearly Price Per Pound for Sockeye Salmon Statewide for the years 1998-2007*, supplied at Chairman Johnson’s request.

In general, by crossing the ADF&G harvest weight volumes for Upper Cook Inlet with processor COAR wholesale price data it's possible to determine with reasonable accuracy the approximate annual "economic impact" of the Upper Cook Inlet commercial salmon fishing industry.¹⁶⁹

Commercial Fishing Summary: For the period 2002-2007, the Upper Cook Inlet commercial salmon industry produced an average "economic impact" of about \$36.6 million for the region and Alaska.¹⁷⁰ For the most recent ten year period (1998-2007), the industry's average economic impact was about 20 percent less, or \$28.1 million.¹⁷¹ Ex-vessel prices during the same ten year period produced a total annual economic benefit of roughly \$16.3 million to Upper Cook Inlet commercial fishermen

¹⁶⁹ By calculating harvest weight to processed weight, you can determine approximately how much UCI processed salmon product there should have been each year. Adjustments can then be made where necessary to ADF&G UCI processor COAR values by multiplying the average price per pound for that year against the pounds of overage or underage of processed product.

¹⁷⁰ Based on UCI harvest and UCI processor wholesale price per lb data. Sources: ADF&G annual UCI harvest data; ADF&G, COAR 4/1/09, *Wholesale Value of Salmon for Upper and Lower Cook Inlet for the Years 1998-2007*

¹⁷¹ That's because the average UCI harvest in the previous five year period between 1998-2001 was only 15 million pounds of salmon compared to an average of 34.4 million pounds a for the years 2002-2007.

(harvesters/crew)¹⁷². In addition, the Southcentral seafood processing industry generates about \$14 million in wages annually.¹⁷³

Why the Numbers Matter: The Policy Implications of UCI Fisheries Economic Data

The framers of Alaska's constitution made it clear that "economic benefit" was not the sole consideration in making resource allocations. A number of other important socio-economic factors were also to be considered in allocating resource use to produce the "maximum benefit" for Alaskans. But the "economic impact" or "economic benefit" of potential uses of a resource logically factors large in any "maximum benefit" equation.

Moreover, in expressing the policy intent to develop Alaska's resources fully by "making them available for maximum use consistent with the public interest"¹⁷⁴ the framers implicitly recognized that "utilization" of state resources would likely change over time as the population grew and demographics changed. That's particularly true with regard

¹⁷² ADF&G: <http://www.cf.adfg.state.ak.us/geninfo/finfish/salmon/catchval/blusheet/08exvesl.php>. That figure represents a steep decline in harvest values equaling only 15% of the highest historic annual values for UCI salmon harvests, which averaged \$108 in value per year during 1986-1992. Note: The figures listed on the ADF&G website cited in this footnote also include Lower Cook Inlet harvests, with an average annual value of approximately \$1.8 million during the most recent 10 year period. The figure of \$16.3 million annual average for the same period is derived by subtracting the LCI ex-vessel values from the figures listed on the ADF&G website which includes both UCI & LCI ex-vessel values. For the most recent 10 year average, LCI salmon fisheries have harvested approximately 1.6 million fish – or about 660,000 pounds of the UCI annual harvest (LCI: sockeyes 17%/ave 6.12lbs ea; Pinks 28%/ave 3.35 lbs ea).

¹⁷³ Northern Economics, Inc., 52, Figure 47. Data represents 2007 processing sector wages. No 10 year figures were available, but the approximately \$14 million wage amount likely represents close to an average for the industry. That figure is confirmed by Alaska Dept. of Labor and Workforce Development (ADLWD) data for the Kenai Peninsula Borough (KPB) which shows \$13.1 million in wages paid to processing workers in 2008. Note: the Northern Economics \$14 million figure represents wages paid in the processing sector in all plants in Southcentral, not just UCI (e.g.: includes Valdez, Cordova, Whittier, Seward & Homer). It also includes processing wages paid for processing all seafood species (i.e.: halibut, crab, herring, rockfish, salmon, etc.), which would be the case for the KPB ADLWD data as well.

¹⁷⁴ *Constitution*, Art. VIII, Sec. 1, "Statement of Policy"

to “renewable” resources that produce economic yields for the state year after year. Managing such yields to “maximize” the economic benefit to Alaska is an ongoing process. And much like other state revenues, the allocation of “economic benefits” from a renewable resource must be assessed frequently as a matter of policy.

As ADF&G pointed out in explaining the need for the new economic study of sportfishing spending impact:

“As part of it’s mission and strategic plan, (ADF&G) must manage sport fisheries according to the sustained yield principle and in ways that attempt to optimize social and economic benefits to Alaskans. (ADF&G) is also required to provide the legislature with periodic updates on a number of key performance measures related to its management of fish and wildlife resources in Alaska. These measures include estimates of the economic contribution of sportfishing to the state of Alaska for key regions and by residency.

....

One of the key objectives of the project (was) to establish a consistent and repeatable methodology for . . . comparing such estimates over time, as well as making reasonably current estimates available to planning and regulatory decision-makers.”¹⁷⁵

¹⁷⁵ <http://www.sf.adfg.state.ak.us/statewide/economics/2007Study.cfm> The most recent economic impact assessment conducted by the Division (prior to Southwick, Inc., et al, 2007) was completed in 1989 with estimates for 1993 fishing activity, meaning that prior detailed economic impact estimates were 14 years old.

That's precisely the kind of resource "use" analysis the framers intended. Because with regard to salmon resources specifically, after the near collapse of the resource in the 1950s caused essentially by monopolistic control by a few outside processors, the Constitution made it clear that after statehood fishery resources would be managed for the "common use" of all state residents, and that benefits should accrue generally to Alaskans to the greatest extent possible.

In the decades immediately following statehood, the reallocation of "economic benefit" from state salmon resources away from just a few outside processors with fish wheels to Alaskan commercial fishermen provided both the fullest possible sustainable "utilization" of the valuable resource – and the greatest economic benefit to Alaska.

But recent economic data suggests that in Upper Cook Inlet salmon fisheries, the circumstances have dramatically changed. Population increases in the region now favor sportfishing "utilization" of that resource by a factor of over 40-1. Moreover, a comparison of the direct "economic impact" for Alaska from the two major segments of the fishery in 2007 reveals that sportfishing had an "economic impact" almost seven times greater than commercial fishing (\$209 million to \$31 million).¹⁷⁶ When resident sportfishing spending in Cook Inlet is added in, the "economic contribution" ratio was about 20-1.¹⁷⁷

¹⁷⁶ In 2007, \$209 million nonresident sportfish spending vs. \$31 million comfish first wholesale to nonresidents (6.7-1)

¹⁷⁷ \$630 million resident and nonresident Cook Inlet sportfish spending (all sales) compared to \$31 million commercial first wholesale value (all sales) (20.3-1)

The Bottom Line: What the New Upper Cook Inlet Numbers Tell Us

The new economic data on the Upper Cook Inlet salmon fishery demonstrates that the sportfishing economic production from the Upper Cook Inlet salmon fishery resource is significantly greater than that produced by commercial fishing.

In 2007, salmon sportfishing spending in Upper Cook Inlet produced approximately \$209 million in direct "economic impact" (sales to nonresidents/"new money") for the region and Alaska. In the same year, Upper Cook Inlet commercial salmon fishing produced approximately \$30.7 million. In "total sales" (resident and nonresident), salmon sportfish spending in Upper Cook Inlet generated a total "economic contribution" of approximately \$630 million. That compares again to the total Upper Cook Inlet commercial salmon fishing industry sales of \$30.7 million ("first wholesale value").¹⁷⁸ Sales from both sportfishing and commercial fishing would also create additional economic activity for the region and state as the money circulates creating additional income and jobs.¹⁷⁹

In short, the new economic data – much like the socio-economic data – indicates that Upper Cook Inlet salmon allocations may not be consistent with the Constitutional policy

¹⁷⁸ In economic terms, the processor "first wholesale value" equals "all sales" and therefore represents both the industry's "economic impact" and "economic contribution." In sportfish spending, the approximately \$209 million spent by nonresidents in 2007 on UCI salmon fishing would constitute the direct "economic impact," while the total nonresident and resident spending combined of \$630 million would constitute "all sales" – or the "economic contribution."

¹⁷⁹ Note: neither the sportfish nor commercial economic figures listed here (e.g.: \$209-\$31 million; \$630-\$31 million) take into account the standard effects of economic multipliers as the money circulates. The figures listed are both direct "sales" figures for the industries. As such, they are the most accurate direct comparisons of the "economic impact" and "economic contributions" of the industries.

of producing “maximum benefit” from the fishery. Sportfishing in Upper Cook Inlet produces roughly seven times (6.7-1) the “economic impact” and twenty times the “economic contribution” (20-1). Yet commercial fishing is allocated 82% of the harvest.

But economic contribution figures can’t identify optimum allocation policy. The framers never intended that they should – and it would be inaccurate to conclude that such data even could. Because as Professor Knapp pointed out in his presentation to the Task Force, simply “allocating more salmon to Cook Inlet sport fisheries will not result in proportionately higher economic contributions (because) it won’t give Alaskans more money to spend.”¹⁸⁰ He also noted that reallocations would not result in a “one-to-one tradeoff” between commercial and sport harvests.¹⁸¹

Moreover, Prof. Knapp warned Task Force members of inherent biases and a potential large margin of error in the sportfish study.¹⁸² Nevertheless, Prof. Knapp concluded that the sportfish study was “done carefully and attempted to minimize errors and bias . . . (and) followed standard procedures used by economists to collect data about and measure expenditures of anglers, tourists and other similar groups.”¹⁸³ Even so, he cautioned that

¹⁸⁰ Knapp, *Comparison*, 41

¹⁸¹ *Ibid.*

¹⁸² *Ibid.*, 27, Knapp stated that economic data for the commercial fishing industry by contrast was “not perfect . . . but reasonably reliable” because it was based on sales reported directly by the industry.

¹⁸³ *Ibid.*, 28

the sportfish numbers were not "precise estimates" and that the margin of error might be large.¹⁸⁴

Despite those cautions, Prof. Knapp told Task Force members that "it seems reasonable to conclude that the average economic impact per harvested salmon is considerably higher for Cook Inlet sport fisheries than for Cook Inlet commercial fisheries."¹⁸⁵ Significantly, as has been pointed out, the ADF&G data Knapp based that assessment on actually overstated the value of Upper Cook Inlet commercial salmon harvests by a factor of more than double.

Allocation Policy Implications of Long-Term Economic Trends in the Upper Cook Inlet Sport and Commercial Salmon Fishing Industries

While the new economic studies by themselves may not be determinative with regard to Upper Cook Inlet salmon allocation policy,¹⁸⁶ combined with other factors they are significant. This report has already discussed the many socio-economic considerations that suggest current Upper Cook Inlet salmon allocations are unfairly disproportionate and likely not producing maximum benefit for Alaska.

Application of some basic economic principles and analysis of long term economic trends for the Upper Cook Inlet salmon fishery also helps illuminate the policy ramifications of future allocative decisions.

¹⁸⁴ *Ibid.*, 35, Knapp stated, however, that "there is no reason to conclude they are too high or too low" and "appear to be generally consistent with other studies (which could have similar biases)."

¹⁸⁵ *Ibid.*, 40

¹⁸⁶ *Ibid.*, Knapp stated that he personally believed the economic studies "provide relatively little if any useful policy guidance (for UCI salmon allocations)."