ALASKA STATE LEGISLATURE
HOUSE SPECIAL COMMITTEE ON FISHERIES
March 19, 2019
9:48 a.m.

MEMBERS PRESENT

Representative Louise Stutes, Chair
Representative Bryce Edgmon
Representative Chuck Kopp
Representative Jonathan Kreiss-Tomkins
Representative Sarah Vance

MEMBERS ABSENT

Representative Geran Tarr
Representative Mark Neuman

COMMITTEE CALENDAR

PRESENTATION(S): HATCHERIES BY THE REGIONAL AQUACULTURE ASSOCIATIONS & MCDOWELL GROUP

- HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

TINA FAIRBANKS, Executive Director
Kodiak Regional Aquaculture Association (KRAA)
Kodiak, Alaska
POSITION STATEMENT: During the presentation on hatcheries, co-provided a PowerPoint presentation titled "The Alaska Salmon Hatchery Alliance."

STEVE REIFENSTUHL, General Manager
Northern Southeast Regional Aquaculture Association (NSRAA)
Sitka, Alaska
POSITION STATEMENT: During the presentation on hatcheries, co-provided a PowerPoint presentation titled "The Alaska Salmon Hatchery Alliance."

DAN LESH, Senior Analyst
McDowell Group
Juneau, Alaska
POSITION STATEMENT: During the presentation on hatcheries, provided a PowerPoint presentation titled "Economic Impacts of Alaska's Salmon Hatcheries."

ACTION NARRATIVE

9:48:10 AM

CHAIR LOUISE STUTES called the House Special Committee on Fisheries meeting to order at 9:48 a.m. Representatives Kreiss-Tompkins, Vance, and Stutes were present at the call to order. Representatives Edgmon and Kopp arrived as the meeting was in progress.

PRESENTATION(S): HATCHERIES BY THE REGIONAL AQUACULTURE ASSOCIATIONS & MCDOWELL GROUP

9:49:24 AM

CO-CHAIR STUTES announced that the only order of business would be presentations on hatcheries by Alaska's regional aquaculture associations and by McDowell Group on the economic impacts of hatcheries.

CHAIR STUTES noted that today's presentations are part two in a series of presentations on hatcheries. There is much focus statewide surrounding salmon hatcheries and science, exploring the potential effects of hatchery straying. She shared her opinion that the previous week's presentations by the Alaska Department of Fish and Game (ADF&G), followed by today's presentations, would provide a holistic view for committee members and the public on the need for hatcheries, as well as what they are, and what they provide to fishermen and the state.

9:51:00 AM

TINA FAIRBANKS, Executive Director, Kodiak Regional Aquaculture Association (KRAA), provided a PowerPoint presentation titled "The Alaska Salmon Hatchery Alliance." Displaying slide 1, she began her testimony by noting that today she is representing KRAA as well as the Alaska Salmon Hatchery Alliance. She stated her presentation would provide a view of the hatchery programs as well as the contributions these programs make to their local communities and the economy of the state. Showing slide 2, she

explained there are eight private nonprofit (PNP) hatchery associations throughout Southcentral and Southeast Alaska [Kodiak Regional Aquaculture Association, Kodiak; Cook Inlet Aquaculture Association, Kenai; Prince William Sound Aquaculture Corporation, Cordova; Valdez Fisheries Development Association Inc., Valdez; Northern Southeast Regional Aquaculture Association, Sitka; Southern Southeast Regional Aquaculture Association, Ketchikan; Douglas Island Pink and Chum, Inc., Juneau; Armstrong Keta Inc., Juneau].

MS. FAIRBANKS moved to slide 3 and related that each hatchery's mission is to increase the abundance and enhance fisheries while protecting wild stocks. Fisheries enhancement projects are not permitted if they are anticipated to have significant negative effect on natural production. They are meant to provide added opportunity rather than supplement it or replace existing populations or fisheries. The hatchery program [in the Alaska Department of Fish and Game] and the PNP hatcheries were established in response to depressed salmon fisheries across the state. Many of the associations began with directed efforts at rehabilitation of wild stocks.

MS. FAIRBANKS turned to slide 4 and related that a large part of the rush to statehood was predicated on the desire to assume management of Alaska's fisheries within state waters. Following statehood, the Division of Fisheries Rehabilitation, Enhancement and Development (FRED) was created within the Alaska Department of Fish and Game (ADFG), and the statutory and regulatory framework for the PNP hatchery program was created soon after. During a period of budgetary contraction and fiscal challenges the PNP hatchery program assumed many of the state's hatchery facilities as well as many of the rehabilitation duties of the FRED division.

MS. FAIRBANKS addressed slide 5, pointing out that since that time Alaska has enjoyed a period of abundance in its salmon harvest that is unmatched in the history of the fishery. Prior to the PNP program and the FRED division, commercial harvest of salmon had been in decline and were at an all-time low. Following establishment of the enhancement programs and favorable climate regime shift, the average harvest of both wild and enhanced stocks increased and have remained high for a sustained period.

9:54:13 AM

CHAIR STUTES commented that it's been said hatchery programs only benefit the commercial fisheries. She asked whether any other groups benefit from hatcheries.

MS. FAIRBANKS replied that the PNP hatchery programs are mandated to benefit all user groups. She said the programs benefit the common property fishery, which includes sport, personal use, subsistence, and commercial fishing. For example, [KRAA] has several lake stocking projects for sockeye where hatchery fish are located into barren lakes near villages that have no anadromous salmon populations. Those fish return to those villages and salmon is put on the people's plates.

9:55:18 AM

REPRESENTATIVE KREISS-TOMKINS asked Ms. Fairbanks to describe where funding for the enhancement programs comes from.

MS. FAIRBANKS responded that the PNP hatchery programs are self-funded by the industry. The commercial salmon permit holders in each region with an active aquaculture association have levied upon themselves a salmon enhancement tax, with the tax rate of from 1-3 percent determined by vote. In addition, through statute, [the PNPs] are provided the opportunity to offer a licensing agreement on an annual basis on the adult salmon returning to their projects, a process called cost recovery. Those cost recovery activities allow [the PNPs] to recoup their operational expenses.

REPRESENTATIVE KREISS-TOMKINS observed that the graph on slide 5 shows a jump in the return of wild salmon from 40 million to 75 million on average post enhancement programs in Alaska, not counting hatchery returns. He asked whether there is a biological explanation for why wild salmon stock nearly doubled circa 1975 and how that would be associated with or caused by the hatchery program.

9:57:26 AM

STEVE REIFENSTUHL, General Manager, Northern Southeast Regional Aquaculture Association (NSRAA), answered that primarily it was the good state management that came into play in 1960 and that took some time to catch up following the fish traps. Also, in 1977 there was a regime shift, called the Pacific Decadal Oscillation. This period of time has been identified in science as when North Pacific Ocean productivity increased. The graph is showing the benefits of that regime shift to both hatchery

and wild fish. When there are regional downturns, like there has been in Southeast Alaska recently for pink salmon, it is seen in both the hatchery and wild fish at the same time.

9:59:02 AM

MS. FAIRBANKS displayed slide 6 and resumed her presentation. She shared that much of the success of the PNP program was due to emphasis on pink and chum salmon production. She explained that because of their short hatchery residency, pink and chum salmon are ideal for Alaska's hatchery production. While those programs are most cost effective and represent over 90 percent of enhanced production, the smaller numbers of coho, sockeye, and chinook, though more costly to produce, generally return at higher rates and at a higher value. The smaller scale of coho, sockeye, and chinook production is dictated primarily by their longer freshwater residence time, but they are often the greatest contributors to enhanced fisheries for subsistence, sport, and personal use. The larger scale pink and chum production offsets the costs of the smaller programs and makes production of the other salmon species possible.

10:00:19 AM

REPRESENTATIVE VANCE observed slide 6 states that most non-commercial hatchery sockeye were harvested by personal and subsistence fishermen. She inquired about the ratio of commercial versus noncommercial hatcheries.

MS. FAIRBANKS replied there are two state operated sportfish facilities. Facilities operated by PNP hatchery associations typically are a combination of projects that benefit both commercial and other common property users; none of the PNP hatcheries are simply sport fish or commercial fish directed.

REPRESENTATIVE KREISS-TOMKINS observed from slide 6 that there is substantial non-commercial harvest. He asked whether there was any thought or discussion regarding the sport fishing sector, particularly guided sport fishers, helping finance hatchery programs in a proportional and equitable way.

MR. REIFENSTUHL responded there has been discussion in Southeast Alaska about having sport charter groups contribute. That hasn't taken place because other political issues are at play with the split of treaty salmon in Southeast, so the boards have decided not to accept money, although not much has been offered. Because of the mechanism had for doing cost recovery there is

not really a need to bring in additional money. Seventy to 75 percent of the returning fish go to common property fisheries, which includes personal use, commercial, sport, sport charter, and subsistence.

CHAIR STUTES asked whether there have been any discussions in Southcentral Alaska concerning sport fisheries contributing.

MS. FAIRBANKS answered she is unaware of any discussions taking place in Southcentral, mainly for the reasons identified by Mr. Reifenstuhl.

REPRESENTATIVE VANCE commented she was happy to hear about the PNP hatcheries having adequate funding. She thanked the fishermen for their contributions and making it sustainable.

10:04:52 AM

MS. FAIRBANKS moved to slide 7 and resumed her presentation. She said Alaska's PNP hatchery programs represent one of the most successful and consistent public-private partnerships in the state's history. Whether state or privately owned, these facilities produce salmon for the common property, which includes sport, subsistence, personal use, and commercial fisheries, at no cost to the State of Alaska. The program is entirely self-funded through cost recovery of returning adult salmon as well as the self-assessed Salmon Enhancement Tax that salmon permit holders levied on themselves in each region with an active aquaculture association. The revenues generated through commercial harvests, landing, and fish taxes go back into the communities and into the state's coffers and represent a great return on the state's initial investment in these programs.

MS. FAIRBANKS turned to slide 8 and explained the bar graph depicts the varying overall production levels for each of the four associations in the Southcentral area, as well as, for a given year, how the releases of juvenile salmon compare to the overall permitted capacity. However, she noted, the programs, production, and species vary from region to region and hatchery to hatchery. She said ADF&G monitors hatchery performance and reviews programs and permit requests for compliance with management, pathology, genetics, and the policy for sustainable salmon fisheries.

MS. FAIRBANKS addressed slide 9, reporting that the projects established in Southcentral Alaska are operated by Kodiak

Regional Aquaculture Association (KRAA), Cook Inlet Aquaculture Association (CIAA), Prince William Sound Aquaculture Corporation (PWSAC), and the Valdez Fisheries Development Association (VFDA). Collectively they contribute $365 million in annual economic output, 2700 annualized jobs, $76 million in annual ex-vessel value, and $125 million in annual labor income. These are impressive figures for nonprofit organizations operating with a collective budget of about $25 million, she remarked. At a minimum that is a 3:1 ratio in terms of ex-vessel value versus the cost of operations.

10:07:30 AM

MS. FAIRBANKS discussed each of the individual associations in Southcentral region. Showing slide 10, she related that KRAA was formed in 1983 and has a 15-member board composed of purse seine, set gillnet, and beach seine commercial salmon permit holders, as well as subsistence, sport fishing, processing, and marketing representatives. The boards of other associations, she added, are similarly comprised, though they vary in size and may include municipal, borough, tribal, and personal use representatives, as well as those representing state and federal agencies as either voting or nonvoting members. She said KRAA operates two state owned hatchery facilities and produces all five species of Alaska's Pacific salmon as well as rainbow trout. The KRAA hatcheries provide large numbers of coho and sockeye that are available to subsistence and sport anglers around Kodiak and surrounding villages and partners with ADF&G Division of Sport Fish to provide chinook and rainbow trout fishing on the Kodiak road system. The KRAA has a long history of partnering with local ADF&G staff to conduct rehabilitation, research, and monitoring projects throughout the archipelago. These partnerships extend to limnology and water quality monitoring on sockeye nursery lakes on Kodiak and Afognak islands, and monitoring returning adult salmon as well as smolt operations. The KRAA research and monitoring staff conduct activities related to oversight of KRAA's projects in every life stage, including otolith collection, reading, and analysis; weir monitoring for adult counts; effluent water monitoring; and data collection and research for potential future projects. Also, KRAA partners with local tribal entities on data collection and internships to promote capacity building within those tribal entities and conducts outreach and educational programs within the local school systems and public events. However, it is still commercial production and contributions that drive the bulk of activities at KRAA. On average, KRAA's projects contribute over 4 million fish to the common property fisheries

of Kodiak each year and KRAA's programs provide a vital contribution to the community and economy of Kodiak in both good and bad years. For example, in 2018 KRAA suspended its cost recovery operations for pink salmon in favor of putting as many fish as possible into the nets of fishermen, contributing over half of the pink salmon caught in the Kodiak Management Area. In 2019 KRAA estimates a contribution of over 7 million adult salmon at an estimated value of $12 million. This equates to just under 25 percent of the projected pink salmon harvest and 15 percent of the projected sockeye salmon harvest in the Kodiak Management Area for 2019.

10:10:37 AM

REPRESENTATIVE KOPP asked why some hatcheries have opted to produce pink and chum versus higher value salmon like sockeye and coho.

MS. FAIRBANKS replied that in terms of cost effectiveness the residence time in a hatchery for pink and chum salmon allow for producing larger numbers. Sockeye, coho, and chinook have a longer freshwater residence time and require greater freshwater resources, longer periods of rearing, and more dedicated staff; but they do return at higher rates and have a higher dollar value at return. In terms of input/output, the pink and chum projects constitute the bread and butter of an association and allow for offsetting the cost of the smaller and more costly production of the other species. She deferred to Mr. Reifenstuhl to address the other reasons that Alaska's salmon hatchery production has mainly focused on pinks and chums.

MR. REIFENSTUHL explained that some of the pink and chum production is done based on niche availability in the ocean. In Southeast Alaska there is very little or almost no pink salmon production whereas there is a lot of chum salmon production because there is a good ocean niche, whereas in Prince William Sound and Kodiak there is a niche for the pink salmon. Boiling it down to numbers, the cost of raising chinook on a cost to benefit basis is 1:1 to 1:2, if lucky, and coho might be 3:1 benefit to cost, while pink and chum are 8:1 or higher.

10:13:54 AM

MS. FAIRBANKS resumed her presentation, stating that each of the PNP salmon hatchery associations in Alaska has a similar story to KRAA's. Moving to slide 11, she discussed the Cook Inlet

Aquaculture Association (CIAA), headquartered in Kenai. She said CIAA provides harvest opportunities for the Kenai Peninsula and waters of Cook Inlet stretching up to the Matanuska and Susitna drainages as well as the western and lower portions of Cook Inlet. The CIAA operates three salmon hatcheries at Trail Lakes near Seward, Tutka Bay Lagoon, and Port Graham. These facilities produce pink, sockeye, and coho salmon for users throughout the Cook Inlet region. Many of CIAA's projects contribute to, and are specifically directed at, sport, personal use, and subsistence fisheries. In some areas of the region, hatchery produced salmon are the only source for those fisheries, such as silver and sockeye salmon that are caught in Resurrection Bay. During the recent five-year period, CIAA produced more than 26,000 sockeyes annually for sport anglers. Also, CIAA's stocking projects provide additional opportunity in many locations throughout the region. Further, CIAA has an active research and evaluation division which dedicates time to otolith reading and analysis as well as smolt and adult enumeration projects and evaluation. In addition, CIAA has long been involved in evaluation and eradication efforts related to invasive species on the Kenai Peninsula and other areas in its region.

10:16:22 AM

MS. FAIRBANKS turned to slide 12 and spoke to the Prince William Sound Aquaculture Corporation (PWSAC), which is headquartered in Cordova and which has logistic and laboratory facilities in Anchorage. Three of the five hatcheries operated by PWSAC are owned by the State of Alaska. Four are located within the Prince William Sound and the fifth is located on the Gulkana River. The Main Bay and Gulkana facilities are focused on sockeye salmon production, while the Wally Noerenberg, Cannery Creek, and Armin F. Koernig hatcheries produce primarily pink, chum, and coho. On average, 70-80 percent of PWSAC's goes to the common property fisheries of the Copper River in Prince William Sound and provide an average common property harvest value of $49 million. Over 16,000 fish were contributed by PWSAC's projects directly to sport fishing harvest in the communities of Cordova, Whittier, and Chenega and elsewhere where coho are stocked annually. The Village of Chenega also received stocked chinook through a cooperative agreement with ADF&G. Salmon harvesters of all user groups that benefit from PWSAC projects represent residents from across the state. In 2018 over 30 percent of the Chitina dipnet harvest on the Copper River was provided by fish returning to the Gulkana hatchery and

annually that hatchery contributes approximately 25 percent of the famed Copper River red run.

MS. FAIRBANKS showed slide 13 and discussed the Valdez Fisheries Development Association Inc. (VFDA), which operates the Solomon Gulch Hatchery to produce pink and coho salmon for the common property fisheries of Prince William Sound. Solomon Gulch is currently the largest single pink salmon facility in the state and is unique its utilization of an early pink salmon stock for production. The returns of VFDA pink salmon provide early season harvest opportunity for the Prince William Sound salmon seine fishery and for the last decade have contributed more than 15 million fish annually to the common property fisheries of Prince William Sound and Valdez, about 33 percent of seine harvest in the region overall. In addition, VFDA generates an annual average of 83,000 returning adult coho salmon, which represents more than 80 percent of the sport caught coho harvested in Valdez Arm. The VFDA's coho program also targets local subsistence opportunity through a small release in the Valdez area and more than 15,000 VFDA pink salmon are harvested by sport anglers each year.

10:19:34 AM

MR. REIFENSTUHL began his presentation by following up on an earlier question regarding sport fish. He explained that the hatchery programs by statute are supposed to provide a public good. So, in the sense of providing fish to all Alaskans - sport fish, subsistence, personal use - the hatcheries are providing a public good at the expense of commercial fishermen, which the hatcheries as a group are happy to do. He pointed out that the hatcheries in Juneau and Ketchikan are received money from the Division of Sport Fish to produce king salmon for the local sport fishers in those areas. Responding to Chair Stutes he confirmed that money is from ADF&G's Division of Sport Fish.

MR. REIFENSTUHL offered his appreciation for the opportunity to explain the economically important public/private partnership of hatcheries with the State of Alaska. He stated that hatchery programs dovetail with the constitutional mandate for sustainable fisheries management, protection of wild stocks, and providing a public benefit. The PNP program was signed into law by Governor Jay Hammond in 1974 and since then has contributed nearly $2 billion to the common property [commercial] fisheries. This is without any assessment or evaluation of what the value is to the sport fisheries.

10:22:10 AM

MR. REIFENSTUHL displayed slide 14 and provided a brief overview of the aquaculture associations in Southeast Alaska. He noted slide 14 shows the permitted capacity for each of the four associations in Southeast Alaska: Northern Southeast Regional Aquaculture Association (NSRAA), Southern Southeast Regional Aquaculture Association (SSRAA), Armstrong Keta Incorporated (AKI), and Douglas Island Pink and Chum (DIPAC).

MR. REIFENSTUHL turned to slide 15 and pointed out that collectively the four Southeast Alaska PNP hatcheries contribute $237 million in annual economic output, 2000 annualized jobs, $44 million in annual ex-vessel value, and $90 million in annual labor income.

MR. REIFENSTUHL moved to slide 16 and spoke to NSRAA, which operates one hatchery in Kake, two hatcheries in Sitka, and a state-owned facility at Hidden Falls on Baranof Island. He noted NSRAA has a contractual arrangement with ADF&G to operate the Hidden Falls facility, which was built by the state in 1978-1980, and NSRAA entered this relationship in about 1988 when the legislature decided to have all the PNPs run the hatchery programs.

10:24:25 AM

REPRESENTATIVE KREISS-TOMKINS offered his compliments for NSRAA's administration of the Kake hatchery. He said NSRAA is one of the best administered nonprofit organizations he knows in Alaska.

CHAIR STUTES interjected that she would say all the PNPs are "right up there," including Southcentral.

MR. REIFENSTUHL quipped he is glad to see that there is partisan "bickering" in this regard.

10:25:38 AM

MR. REIFENSTUHL resumed his discussion of the Kake hatchery, which has been putting fish in the water for about four years. He said 2019 is the first year that the hatchery is going to have common property openings in or near Kake. It is a big deal for this small community that is struggling economically. The expectation is for 1.7 million fish, which will bring in a lot of boats as well as provide fishing for the locals. He stated

NSRAA has 35 full-time employees and NSRAA operates on an annual budget of $8 million.

MR. REIFENSTUHL turned to slide 17 told the committee that SSRAA operates two state-owned facilities, one located in Crystal Lake near Petersburg and the Klawock hatchery in Craig. It operates four other hatcheries at Neets Bay, Deer Mountain, and Whitman Lake near Ketchikan, and Burnett Inlet near Wrangell.

MR. REIFENSTUHL showed slide 18 and stated that DIPAC, the Macaulay Hatchery, is a premier facility in Juneau. It was built with fine architecture and lots of art around it because it is representing Juneau, the capital of Alaska. Ladd Macauley was a Juneau visionary who began the program in a cave in Kowee Creek across the bridge from Juneau in the late 1970s and he grew it into the facility of today. Mr. Macauley was killed by a drunk driver in a tragic accident nearly 20 years ago, but his legacy lives on as an outstanding example of what a private nonprofit can do and what a visionary can accomplish in his lifetime. Mr. Reifenstuhl noted that DIPAC also operates the state facility at Snettisham where Juneau gets most of its power. This facility produces sockeye and some of these smolt are planted in Sweetheart Lake, which is a program done specifically for sport and personal use fisheries. Part of the sockeye program is tied to the Pacific Salmon Treaty and flown to Canadian lakes each summer. All the programs in Southeast Alaska are making some contribution based on demands of the Pacific Salmon Treaty, primarily with chinook and coho production.

10:29:25 AM

MR. REIFENSTUHL moved to slide 19 and described AKI as a small PNP near the southern tip of Baranof Island that produces coho, chum, and pink salmon. He said AKI is the only facility that produces pink salmon in Southeast, all the other facilities have chosen not to produce pinks.

MR. REIFENSTUHL noted there are two other hatcheries that haven't yet been mentioned, both operated by National Oceanic and Atmospheric Administration (NOAA) Fisheries in its research facilities, one in NOAA's Auke Bay facility in Juneau and one in Little Port Walter that has operated since the 1940s.

MR. REIFENSTUHL concluded with slide 20. He invited committee members to visit any of the fish hatcheries discussed today.

10:30:25 AM

CHAIR STUTES noted the huge Crawfish Inlet return [of chum salmon] and inquired whether the hatcheries had any participation in that return.

MR. REIFENSTUHL replied that the chum salmon return to Crawfish Inlet was from an NSRAA program that was initiated four years ago. He explained the large return numbers were an unusual phenomenon never seen before because most of these fish were three-year-old and chum normally only come back as 3 to 15 percent of a return and there were 3 million of them. It was permitted by ADF&G in a place that does not have wild stocks. It was unexpected so NSRAA had to act fast to get a commercial fishery on it. That project alone was worth about $15 million to the commercial fishery. If it hadn't been for that program there would have been dozens of trollers and seiners that would not have made their season.

CHAIR STUTES asked whether the hatcheries participate in the NOAA hatchery research program.

MR. REIFENSTUHL responded with his belief that Chair Stutes may be conflating two different things. He explained that the hatchery wild investigation is done through the State of Alaska and has a science panel that includes some retired NOAA scientists. However, what he specifically mentioned were the NOAA programs in Auke Bay and Little Port Walter, which are salmon and other fish research facilities. He surmised that of these two programs the one this committee would be most interested in is the one that Mr. Bill Templin testified about last week.

CHAIR STUTES inquired how hatchery fish stabilize otherwise wild commercial fisheries.

MR. REIFENSTUHL answered that, because of the low productivity of wild fish in the mid-1970s, these programs were designed from the inception to enhance fisheries, not to mitigate habitat loss, human encroachment, industrial encroachment, agriculture. None of those things are present in Alaska to any large degree and the hatchery programs were simply designed to supplement fisheries for an economic benefit while protecting wild stocks and being careful with the management of wild stocks during the prosecution of wild stock fisheries and hatchery returns.

10:34:13 AM

REPRESENTATIVE KOPP asked whether there any research is being done to see if hatchery produced pink salmon could be displacing other species.

MR. REIFENSTUHL replied that there has been ongoing research for over 20 years. Research is primarily being conducted by the North Pacific Anadromous Fish Commission, which includes members from Russia, Japan, Canada, the United States, and Korea, and which has a huge staff. The commission has research vessels that are associated with universities and some of the individual countries. He noted that tomorrow he will be delivering a paper at a meeting of the American Fisheries Society on ocean carrying capacity, and he can speak quite a bit on the interaction of specifically Alaska fish near shore with wild stock or in the greater North Pacific Ocean. Salmon have been studied in the near shore areas in Juneau and in Prince William Sound. When studying that to understand the impact, one must know the prey species is primarily zooplankton and understand the biomass of that zooplankton and the consumption rate of the fry going out for both wild and hatchery. That has been done in Icy Strait and near Juneau and the results are that on a one-day period when the fish come through and their density has been measured, they are consuming less than one-half a percent of the zooplankton available. Generally, the near shore survival is tied to predators - and that is Alaska's king salmon problem right now. The best understanding is that it's predators as the salmon come out of the river into the near shore area and that's where predation occurs. When there are low survivals, that is generally where most of the mortality occurs. Research shows between 50 and 90 percent of salmon die in the first 30-45 days of their life in the ocean.

10:37:14 AM

REPRESENTATIVE VANCE inquired whether comparisons have been made on the quality of meat between hatchery fish versus wild stock.

MR. REIFENSTUHL responded that comparisons have been done between the meat quality of farmed fish and wild chinook and for the most part people could not tell the difference. He said he unaware of any experiments with hatchery fish, but he would bet that people would not be able to tell the difference. The fry are going out at 2-20 grams, so they are very small and are going out in the ocean competing for life for 2-4 years. When they return, they have multiplied in biomass by 20 times. They are having to swim fast to avoid predators, are having to find

prey, are eating the same kind of prey as their wild cohorts with which they are mixed, and it would be remarkable for there to be a difference.

REPRESENTATIVE VANCE clarified that hatchery fish are not farmed fish.

MR. REIFENSTUHL confirmed Representative Vance is correct and pointed out that farm fishing is illegal in Alaska. That was pushed through because commercial fishermen didn't want fish farming in the state of Alaska.

REPRESENTATIVE VANCE requested Mr. Reifenstuhl to describe the difference between farmed and hatchery fish.

MR. REIFENSTUHL replied there is a huge difference. He said [hatchery] fish are small and [the hatcheries] have them for a short period of their life and then they go into ocean and must compete for two to four years before they return as adults. Farmed salmon are kept in raceways or net pens their entire life and harvested in those pens. Farmed salmon do not have predators going after them and are fed for their entire life. They are fed a color dye at the end to bring color to their meat. One might think there would be a taste difference or that a consistency difference could be felt because all those fish must stay upright in their net pens since they aren't avoiding predators and there possibly could be a difference. But in the tests that he is aware of not everybody could tell the difference.

REPRESENTATIVE VANCE remarked that she thinks Alaskans could tell the difference.

10:40:13 AM

REPRESENTATIVE KREISS-TOMKINS asked whether there is any research into adult hatchery salmon returning from the ocean preying on wild and hatchery salmon fry, given adult salmon are known to eat salmon fry.

MR. REIFENSTUHL confirmed there has been such research. He shared information from a recent paper that speculates there could be a negative relationship between Southeast Alaska pink salmon - so not hatchery fish - and coho. He said he would dispute the data and thinks it is a correlation that may have been teased out. He stated he thinks the research shows that there is more of a positive relationship on large pink salmon

years, general there is large coho returns as well. He agreed there is cannibalism - larger fish eat smaller fish, so undoubtedly some hatchery fish like a coho that is going to feed on some pink, chum, or king salmon fry. Another way to look at it is that the large release of hatchery fish can actually be predator shelters in that when large numbers of pink and chum salmon are released as fry and there are predators out there, and comparatively there are small numbers of king or coho fry mixed in, there is going to be more hatchery fish picked off, called predator sheltering, than there would be the wild fish. He qualified that that has not been proven but has been speculated on.

10:43:24 AM

DAN LESH, Senior Analyst, McDowell Group, provided a PowerPoint presentation titled "Economic Impacts of Alaska's Salmon Hatcheries," a project completed in 2018 and for which he was the project manager (slide 1). Addressing slides 2-3, he noted the McDowell Group was founded in 1972 and studies the economic impacts of nearly every major industry in Alaska. He said McDowell Group has conducted well over a dozen economic impact reports for the various hatchery associations over the years, though this is the first time to look at all the groups together collectively. As well, McDowell Group does dozens of other projects looking at other aspects of the seafood economy in Alaska every year.

MR. LESH turned to slide 4 and stated that McDowell Group has very good data from the Alaska Department of Fish and Game (ADF&G) on the fish as they are harvested both in sport and commercial fishing in terms of their hatchery origin. He said four types of economic impacts were added up to come to the total number that he will present at the end: commercial fishing income, value added in seafood processing, nonresident spending on sport fishing, and the economic impacts of the hatchery operations themselves. Businesses in these four sectors, as well as the employees, will spend money they earn from hatchery fish in the economy, which is called by several different names - secondary effects, multiplier effects, indirect effects, or induced effects. McDowell Group uses its 40 years of experience conducting studies, along with an economic modeling program called IMPLAN, to look at those secondary effects. This specific study conflates a 6-year period and takes an average across those years to account for the fluctuations in salmon returns. There are many ways in which the estimates are conservative, including a focus on new

money. For example, the focus is on nonresident spending because an argument could be made that a lot of the spending by residents on hatchery fish would be happening anyway.

MR. LESH showed slide 5 and discussed hatchery funding sources. He recalled a question about sport fish money that comes to some of the PNPs to support chinook development and said some of that money did come from ADF&G. However, he explained, that money is a pass-through from the federal Dingell-Johnson funds. He noted that 79 percent of the collective budgets of the hatcheries comes from cost recovery fisheries and [11 percent] comes from the Enhancement Tax.

MR. LESH moved to slide 6 and reported that the combined ex-vessel value to fishermen from the harvest and sale of hatchery-originated salmon is $120 million. Continuing to slide 7, he explained that $120 million is the average per year and that the value varied from year to year during the six years of the study. The $120 million represents 22 percent of the total value of all Alaska salmon harvests.

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MR. LESH displayed slide 8 and provided more details regarding commercial fishing earnings. He specified that the $120 million goes to pay crew, expenses, taxes, and the owner's income or profits. Between the crew and the owners, about 60 percent, $71 million, is [direct] labor income. Through multiplier effects, an additional $24 million in labor income is created in support sector businesses, such as marine services and grocery stores. About 8,000 fishermen earn some income from the harvest of hatchery fish. Because not all the fishermen's income is from hatchery fish and because many are seasonal jobs, that figure when condensed down to annualized jobs tied only to hatchery fish comes to 1,040 annualized commercial fishing jobs and 1,540 annualized jobs including multiplier effects.

MR. LESH turned to slide 9 and noted that fishermen sell their harvested fish to processors where the fish are converted into various products, such as canned salmon, fillets, "H&G" products that are sold for additional processing outside the state, roe products, which total into a first wholesale value of $361 million. Continuing to slide 10, he explained that the $361 million is the average per year and that the value varied from year to year during the six years of the study. In 2013 it was nearly $500 million in wholesale value from hatchery fish. The

$361 million represents 24 percent of the total value of all salmon products produced in Alaska.

MR. LESH moved to slide 11 and pointed out that hatchery fish are available for anyone to catch and some hatcheries are set up particularly to benefit sport, personal use, and subsistence fishermen. He noted that the photograph on this slide was taken at the very popular Sweetheart Creek near Juneau, which benefits many households in Juneau, including his own. He related that across the state over the six-year study period, an average of 10,000 chinook, 100,000 coho, and 138,000 sockeye of hatchery origin are harvested annually in sport, personal use, and subsistence fisheries. Displaying slide 12, he pointed out that the report provides information on individual communities and their sport fisheries that are supported by hatcheries. One example is the thriving recreational fishing industry in Valdez, with nearly 30 charter operators, three fishing derbies, and a bustling harbor. In 2019 Valdez is going to open a new harbor for the commercial salmon fishing fleet, but still anticipates having 200 people, mostly recreational boaters, on the wait list for slips. To a large degree, this activity is driven by the coho production in Valdez. He reminded the committee that this is only the spending by nonresidents on such things as charter fishing and boat rentals.

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MR. LESH displayed slide 13 and specified that when commercial fishing, seafood processing, hatchery operations, and sport fishing are added up it comes to [an annual economic impact] of 4,700 jobs across the state tied to hatchery production, $218 million in labor income, and $600 million in economic output. Continuing to slide 14 and elaborated that about two-thirds of the $218 in labor income is direct labor income and one-third is the secondary impacts. Commercial fishing and seafood processing are roughly equal in the labor income [43 percent and 38 percent, respectively,] hatchery operations is 11 percent, and sport is 8 percent.

MR. LESH showed slide 15 and explained that a total of 16,000 jobs are impacted by the harvest of hatchery salmon in some way. When condensed for seasonality and other issues, it is 4,700 annualized jobs. Annualizing of these jobs is done to make these numbers more comparable with other industries.

MR. LESH turned to slide 16 and elaborated that the $600 million in economic output is the combination of the labor income and

the spending in the economy. He further elaborated that the harvest and sale of hatchery fish generates an annual tax revenue, on average across the study period, of $3.6 million in Fisheries Business Tax revenue; and a large portion of the Kodiak Island Borough raw fish taxes which total $1.3 million. He further elaborated that the sales, property, fuel, and other taxes that are [generated] by the hatchery fish are very important across the state and are the topic of a current study that is being conducted.

MR. LESH concluded by stating that it is clear from his and the previous presentation that hatchery production is a cornerstone of Alaska's seafood industry. He pointed out that 4,700 annualized jobs are about 13 percent of the total jobs in Alaska's seafood industry.

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REPRESENTATIVE KREISS-TOMKINS commented on the positive indirect benefits of hatcheries. He noted that the commercial fishing industry pays its own way in raw fish tax and Commercial Fisheries Entry Commission (CFED) licensing fees in relation to the cost of ADF&G's Division of Commercial Fisheries. He stated it seems the commercial fishing industry is also paying out millions of dollars through foregone revenue with cost recovery and/or direct enhancement revenues that benefit Alaska collectively. It is paying CFEC, the State of Alaska, as well as all Alaskans in certain sense by underwriting this common benefit.

MR. LESH concurred.

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REPRESENTATIVE KOPP inquired whether the study was able to identify jobs and the economic benefit breakdown that could be tied back to the percent of fish that are hatchery versus wild.

MR. LESH answered yes and explained that the study assessments accounted for this [when calculating the benefits of hatchery caught fish].

REPRESENTATIVE KOPP asked whether the commercial sport operators were looked at as being in the commercial fishing category for income or the sport fishing category.

MR. LESH replied that commercial sport operators, such as charter boat captains, were reported in the sport fishing category and were the bulk of that income that he mentioned.

REPRESENTATIVE KOPP inquired whether the figures for seafood processing sector came just from the commercial seafood processors or also included processors of sport caught fish.

MR. LESH responded that that is one of the ways the study is conservative - it didn't capture any of the sport specialized processors in its economic impacts; it is an additional impact.

REPRESENTATIVE KOPP remarked that on the Kenai Peninsula there are a dozen shops in a mile of road [that process sport caught fish].

10:58:07 AM

ADJOURNMENT

There being no further business before the committee, the House Special Committee on Fisheries meeting was adjourned at 10:58 a.m.