ALASKA STATE LEGISLATURE
HOUSE SPECIAL COMMITTEE ON FISHERIES
February 21, 2013
10:02 a.m.

MEMBERS PRESENT

Representative Paul Seaton, Chair
Representative Eric Feige
Representative Lynn Gattis
Representative Kurt Olson
Representative Jonathan Kreiss-Tomkins

MEMBERS ABSENT

Representative Bob Herron
Representative Craig Johnson

COMMITTEE CALENDAR

OVERVIEW: SEA OTTER SCIENCE

- HEARD

HOUSE BILL NO. 110
"An Act prohibiting the use of barbed hooks in certain freshwater areas."

- HEARD & HELD

PREVIOUS COMMITTEE ACTION

BILL: HB 110
SHORT TITLE: BARBED HOOKS
SPONSOR(s): REPRESENTATIVE(s) SEATON

02/11/13	(H)	READ THE FIRST TIME - REFERRALS
02/11/13	(H)	FSH, RES
02/21/13	(H)	FSH AT 10:00 AM CAPITOL 120

WITNESS REGISTER

VERENA A. GILL, Wildlife Biologist
Office of Marine Mammals Management
U.S. Fish and Wildlife Service (USFWS)
Anchorage, Alaska

POSITION STATEMENT: Co-presented the Sea Otter Science overview.

DR. JIM ESTES PhD, Professor
Department of Ecology and Evolutionary Biology
University of California
Santa Cruz, California
POSITION STATEMENT: Co-presented the Sea Otter Science overview.

DR. GINNY ECKERT PhD, Associate Professor of Fisheries
School of Fisheries and Ocean Sciences
University of Alaska Fairbanks
Juneau, Alaska
POSITION STATEMENT: Co-presented the Sea Otter Science overview.

DOUG DUNCAN, Staff
Representative Paul Seaton
Alaska State Legislature
Juneau, Alaska
POSITION STATEMENT: Introduced HB 110, on behalf of Representative Seaton, sponsor.

ACTION NARRATIVE

10:02:01 AM

CHAIR PAUL SEATON called the House Special Committee on Fisheries meeting to order at 10:02 a.m. Present at the call to order were Representatives Seaton, Feige, and Olson; Representatives Kreiss-Tomkins and Gattis arrived as the meeting was in progress.

Overview: Sea Otter Science

10:02:20 AM

CHAIR SEATON announced that the first order of business would be an overview on sea otter science.

10:03:47 AM

VERENA A. GILL, Wildlife Biologist, U.S. Fish and Wildlife Service (USFWS), referred to the committee handout titled "Sea otters in southeast Alaska; their current population status & causes of mortality," and said there are three population stocks

of northern sea otters in Alaska, which are: southwest stock, listed as threatened under the federal Endangered Species Act (ESA), 1973; southcentral stock; and the southeast stock. Although only the southwest stock is listed under the ESA, all three stocks are protected under the U.S. Marine Mammal Protection Act (MMPA), 1972. The presentation focuses on the southeast colony trends, which range from Yakutat south to the Canadian border. The southeast stocks were entirely extirpated in 1911, by the fur trade, and in the late 1960s the Alaska Department of Fish & Game (ADF&G) translocated 400 sea otter from the southwest and southcentral stocks, to re-establish southeast colonies. She reported that in 2010 and 2012 a comprehensive, abundance aerial survey was conducted of the southern stock. An estimate of the stock was established through a systematic approach: transects were flown, actual animals were counted, and adjustments were made for animals not sighted. A comprehensive survey, conducted in 2003, indicated about 10,000 otters, and the 2012 survey estimated about 25,000. The annual increase in population, based on these numbers, is estimated at about 12-14 percent. In Glacier Bay National Park the growth has been about 20 percent, and removing that figure from the equation adjusts the population growth to about 4 percent in northern southeast areas; indicating a wide range of variance by area. The population growth rate is in synch with what would be expected of stocks expanding into new range areas. She directed attention to the handout page titled "Latest SE stock assessment (2013)," to point out area counts of the southeast sea otter populations. Otter territory expansion in Southeast, save Glacier Bay, has primarily been in southern areas particularly Prince of Wales Island (PWI) and Kuiu Island where the translocation areas were centered in 1968. The potential biological removal (PBR) of sea otters from the southeast Alaska stock is estimated at 2,180. She explained that the PBR is the maximum number of animals, not including natural mortalities, which may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimal sustainable population based on a specific equation. However, because Glacier Bay is not available for hunting of otter, adjustments in the total equation need to be allowed. The total 25,000 population is not available for hunting as 8,500 otters are located within the protected boundaries of the park. Mortality among the otters include: fishery bycatch, natural disease, Native harvest, and predation. The most significant numbers of Native taken otters has occurred in Sitka, and the total for all of southeast is 842. She emphasized the importance for a balanced area harvest versus reducing the stock in one area by the PBR number, which could result in a local

depletion. A health and disease program is operated by USFWS, which receives and processes about 80 otter carcasses annually from across the state. The average number received from southeast is only about seven. Necropsy and live captured animals are screened for a variety of conditions, which include: zoonosis, virus, fungal presence, and bio toxins. Specific studies include paralytic shellfish poisoning (PSP), and a live screening in Kake indicated that 30 of the 31 animals sampled had significant levels of PSP present. What the otters eat is also part of the human diet, which means they are a good "canary in the mine" indicator. She reported that only 50 otter carcasses have been recovered in southeast Alaska since 2006, with the majority being turned in by park rangers patrolling Glacier Bay. The number one cause of death is trauma commonly caused by being struck by boats and gunshot wounds from not reported hunting incidents. However, she said the southeast otter population is disease free and healthy outside of the PSP reports. An iPhone application is available to provide anyone locating a dead marine mammal immediate reporting access to the appropriate USFWS authority, as the carcass surveys are valuable indicators of healthy eco systems.

10:15:09 AM

DR. JIM ESTES PhD, Professor, Department of Ecology and Evolutionary Biology, University of California, said the question being addressed today is: what are the effects of sea otters on kelp forest ecosystems. Otters have recovered from the depleted state, caused by the fur trade industry. The depletion and rebound has provided an opportunity to understand the impacts of otters on coastal kelp systems: otters eat sea urchins, urchins eat kelp, coastal fish live in kelp beds, and carbon dioxide (CO2), an important element of a healthy eco system, is affected. He reported that the study has been conducted in three areas: the Aleutian archipelago, Southeast Alaska, and Vancouver Island. The approach is to study the areas where otter are present, where otter are not present, and monitor the areas through fluctuations of the otter colonies. The otter study has been ongoing for 40 years. Otter have a direct effect on their prey populations and can deplete sea urchin beds, which in turn affects the trophic cascade allowing an abundance of kelp growth. Where the kelp is abundant, mussels flourish at a rate double that of the areas where otter are absent and kelp forests are minimal due to urchin grazing. Fish abundance has an eight fold increase around otter colonies due to the kelp forest growth. Finally, science has been applied to understand the role kelp plays as a factor in

sequestering CO2 in the eco system and to determine the carbon dynamics. The answer can be found by comparing coastal scenarios with and without sea otters at ecologically effective densities, and estimating the kelp biomass. Findings show that if otters were prevalent throughout Alaska and British Columbia, resulting in an overall increased growth of kelp, CO2 would be reduced significantly and the value in the world market as based on the European value for carbon credits would be approximately $300-$600 million. He said further analysis for long term annual effects of kelp sequestering CO2 indicates a value anywhere from $9 million to $1.5 billion. In conclusion he said that otters have major effects on eco systems including: a strong direct negative effect on kelp forest invertebrates (shellfish); direct negative effect on invertebrates which results in a strong indirect positive effect on kelp abundance and distribution; flourishing kelp forests have a myriad of effects on other species and ecological processes; and sea otter management should weigh the cost and benefits of all these effects.

10:23:36 AM

DR. GINNY ECKERT PhD, Associate Professor of Fisheries, School of Fisheries and Ocean Sciences, University of Alaska Fairbanks, said the study of sea otter population recovery and conflicts with shellfish users in Southeast Alaska, is focused on the southern area; primarily Prince of Wales Island (PWI) as it is central to the two sites where the otter were translocated in 1968. The two populations have grown together as their numbers increased. The original 106 otters released were at a count of 2,167 in 1988, and increased by 6.6 percent annually for a 2003 count of 5,845, and in 2010 a count of 13,000 was reported representing an annual increase of 12 percent and merging the two populations. To determine the impacts of the sea otter, data is gathered on a space and time measure: otter occupy an identified space for a specific time to equal what effect. Although sea otter affect four commercial shellfish harvests, the red sea urchin and geoduck clam are not considered in this report. The study seeks to quantify otter effects on fisheries for Dungeness crab, and California sea cucumber. Considering the commercial Dungeness crab fishery has been difficult due to lack of data as the state does not conduct crab population surveys. Thus, the information for the study is based on the collapse of the viability of the fishery. She directed attention to the committee handout page titled "Dungeness crab impacts," to explain the color coded fluctuations of the fishery in conjunction with the presence of otter. She reported that

otter have an evident influence on the crab fishery, but lacking data it is not possible to quantify the effect. The sea cucumber impacts can be quantified as the harvest is monitored by ADF&G and provides specific data for analysis to compare with the arrival of the sea otter. Where otter colonies have existed since 1994 to present, the sea cucumber populations have been depleted. The decline rate has been tracked at a rate of 26 percent, within two years of otter arrival. However, data also indicate that sea cucumber populations decline without the presence of otter, due to the impact of the fishery. The fishery could be sustainably managed without the presence of a major predator such as the sea otter. The study of otter activity is ongoing, and she provided information regarding the foraging data being collected. The otter conveniently bring everything to the surface for ingestion, allowing visual surveys to be conducted using shore based, manned telescopes. For the past three summers, the surveyors have made over 6,000 observations, gathering data on the otter diet, which includes a variety of sea life. Although initial colonization results in certain species being consumed at a higher rate, it has been concluded that, even in areas where the otter have resided for a lengthy period, no species is eradicated but its consumption rate is reduced. She pointed out that the sea cucumber has experienced 100 percent declines, due to otter predation, but cucumber is never more than five percent of the overall diet. Otter have not been observed eating abalone, but recently red king crab have made an appearance. Non-commercially important species have also been noted but not analyzed, which include clams, an important subsistence food. She finished, stating that more information is needed to establish management conclusions, such as: the role otter play in kelp forest ecosystems and the positive fishery impacts for herring, rockfish and salmon; positive effects on tourism; do areas exist that are not suitable otter habitat and where might the colonies expand into; survey of standing stock biomass of Dungeness crab in the study region; and the response of fisheries to otter presence.

10:34:35 AM

REPRESENTATIVE FEIGE asked about the sea otter as an endangered species.

MS. GILL ascertained that in Southeast Alaska, sea otter are not listed as endangered, but are governed under the U.S. Marine Mammal Protection Act.

10:35:36 AM

CHAIR SEATON referred to the handout page titled, "Locations of reported subsistence harvest of sea otters from SE AK, last 5 yrs.," and asked whether the harvest numbers relate to otter population density/availability or the presence/locale of human populations.

MS. GILL responded that the number reflects where human populations and cultural uses exist.

CHAIR SEATON said it would be helpful, when considering local depletions, to compare the harvest area data as relatable to human population density. He then asked for what purpose the subsistence harvest is used.

MS. GILL answered that otter are predominately taken for use of their pelts in production of cultural artifacts, and the meat is sometimes eaten but more often used for dog food. She pointed out that the pelts can be traded by Native to Native but if it is to be sold or traded to a non-Native, it must be significantly altered into a cultural artifact.

CHAIR SEATON referred to the handout page titled "Kelp forest fish abundance," and asked how the catch effort data was collected.

DR. ESTES said the fishing effort was conducted for survey purposes using specific nets for the assessment, and pointed out that the data was collected from the Aleutian Islands and the kelp forest fish that inhabit that area.

HB 110-BARBED HOOKS

10:40:23 AM

CHAIR SEATON announced that the final order of business would be HOUSE BILL NO. 110, "An Act prohibiting the use of barbed hooks in certain freshwater areas."

10:40:56 AM

DOUG DUNCAN, Staff, Representative Paul Seaton, Alaska State Legislature, introduced HB 110, paraphrasing from the sponsor statement, which read [original punctuation provided]:

Recently, many runs of Chinook salmon have experienced poor returns. Fishery Disaster Declarations have been made for the Yukon, Kuskokwim, and Cook Inlet regions. People who depend on these king salmon for their economic, recreational, and cultural livelihood are experiencing great hardship due to this low abundance.

Sustainability is critically important and measures should be adopted that help protect Chinook salmon and similar vulnerable species while still maintaining fishing opportunities. One of the best ways to do this is to utilize fishing gear that reduces the mortality to species of concern while still allowing the utilization of healthy stocks.

The use of barbless hooks is proven to reduce the mortality of released fish. Studies by the Pacific Salmon Commission Technical Committee concluded that barbless hook usage reduced mortality by 3.5% in mature fish. A barbless hook is faster to remove and results in less trauma to the fish. This reduces handling and increases the chance a fish will survive to reproduce.

Some fly fishermen currently file the barbs off their hooks to allow a less damaging release of fish. Additionally, Washington and Oregon prohibit the use of barbed hooks while Chinook fishing because wild stock fish must be released while hatchery fish can be retained.

HB 110 would prohibit the use of barbed hooks for freshwater stocks of fish where retention is prohibited, that is in a catch and release fishery.

MR. DUNCAN emphasized that stocks can be protected through less mortality due to the barbless hook with less handling and hook damage.

CHAIR SEATON pointed out the different approach that HB 110 takes versus the laws adopted by Washington State and Oregon, where wild stocks are required to be released and hatchery fish may be retained, and the mortality rate was studied to ensure that the program was having the intended effect. The Alaskan studies indicate that catch and release mortality for Chinook is about eight percent; reducing this number to three or four percent would be significant. The intent of HB 110 is to reduce

catch and release mortality in Alaska's existing catch and release fisheries, without creating new regulatory areas.

10:45:20 AM

REPRESENTATIVE GATTIS questioned whether there would be an impact on safety enforcement officers, and how it relates to the fiscal note.

CHAIR SEATON announced that HB 110 would be held for further consideration at the committee meeting scheduled for 2/26/12.

ADJOURNMENT

There being no further business before the committee, the House Special Committee on Fisheries meeting was adjourned at 10:45 a.m.