ALASKA STATE LEGISLATURE
HOUSE SPECIAL COMMITTEE ON FISHERIES
April 15, 2014
10:05 a.m.

MEMBERS PRESENT

Representative Paul Seaton, Chair
Representative Eric Feige
Representative Lynn Gattis

MEMBERS ABSENT

Representative Bob Herron
Representative Craig Johnson
Representative Kurt Olson
Representative Jonathan Kreiss-Tomkins

COMMITTEE CALENDAR

PRESENTATION: ALASKA DEEP OCEAN SCIENCE INSTITUTE - SEA STAR WASTING SYNDROME (SSWD)

- HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

MICHELLE RIDGWAY, Marine Ecologist
Alaska Deep Ocean Science Institute
Auke Bay, Alaska
POSITION STATEMENT: Provided a presentation on sea star wasting syndrome (SSWD).

ACTION NARRATIVE

10:05:49 AM

CHAIR PAUL SEATON called the House Special Committee on Fisheries meeting to order at 10:05 a.m. Representatives Gattis, Feige, and Seaton were present at the call to order.

PRESENTATION: Alaska Deep Ocean Science Institute - Sea Star Wasting Syndrome (SSWD)

10:06:02 AM

CHAIR SEATON announced that the only order of business would be a presentation from the Alaska Deep Ocean Science Institute regarding sea star wasting syndrome (SSWD).

10:06:33 AM

MICHELLE RIDGWAY, Marine Ecologist, Alaska Deep Ocean Science Institute, said she has been working with the Sitka National Historical Park undertaking marine research projects this spring in Sitka. The park is located just south of Sitka and is often known as Totem Park, and it consists of 40 acres of tidelands and submerged waters. While conducting herring research, she also conducted sea star surveys. She offered to provide findings of those surveys. She related that sea star wasting syndrome (SSWD) has had a widespread outbreak on the Pacific Coast of North America in the past 8-12 months. She described the degree of infection and effects of it. Primarily, the disease is easily identified through lesions that appear as a precursor to the wasting away and death of the sea star. These lesions develop in the surface skin, or ectoderm, and decay spreads to the tissue which eventually leads to death. She turned to her PowerPoint and detailed Category 1 and Category 2 symptoms [slide 1]. Small lesions on the common sea stars may have initiated with a minor or severe scrape or crab bite [or pinch]. Over time, Category 3 and Category 4 disease can result in a progressive deterioration of loss of limbs or rays, weakening of the entire body, and finally death of the organism [slide 2].

10:09:45 AM

MS. RIDGWAY provided a color-coded map illustrating the distribution of occurrence of the sea star wasting disease since 2013, and she remarked on several specific areas and reports that have been sent in regarding this syndrome [slide 3]. One occurrence happened in Anchorage when an aquarium collected sea stars in Seward or Whittier for a touch tank. As of two weeks ago, three occurrences have happened in Alaska, one observation at Point Louisa in Juneau and a report from Kayak Island, which could have been misreported. Reports must be verified by field notes or photographs [slide 4]. She recently spent a month in Sitka, along with the National Park Service staff, to survey sea stars at the beach during the herring spawning season. Some sea stars were healthy; others were not so healthy. This disease

has been seen before on the Pacific Coast during times of warmer water, which is a possible link; however, this outbreak seems different and is much worse.

10:12:17 AM

MS. RIDGWAY said Dr. Drew Harvell, professor of ecology and evolutionary biology, Cornell University, has noted that SSWD has become more widespread. In addition, he has noted the speed in mortality rate.

MS. RIDGWAY said causes of sea star wasting syndrome (SSWD) are not fully known although bacteria is present and warmer water could contribute to it. However, in 2013 Cornell also identified a virus unique to sickened sea stars. She noted there has been no link found to indicate that Fukushima is influencing SSWD.

10:14:02 AM

MS. RIDGWAY said reconnaissance was conducted in Sitka over several tides from March 12, 2014 through April 8, 2014, first at Sitka National Historical Park and then at John Browns Beach, which is where she first observed very distressed sea stars of several species (near the Sitka airport). She also looked at the living collection at the Sitka Sound Science Center Aquarium [slides 7-8]. She pointed out the ochre sea star, *Pisaster ochraceus,* which is probably the most affected species throughout the Pacific coast that has been documented. She showed images of diseased sea stars with lesions.

10:15:56 AM

MS. RIDGWAY conjectured on the cause of lesions and continued with illustrations of healthy versus non-healthy sea star species, including the 21-legged sea star commonly known as the giant sunflower, *Pycnopodia helianchoides* [slides 11-12]. The *Henricia leviuscula* or blood star, a hand size organism, thus far has had a low rate of infection. An abundant aggressive predator that has been highly distressed is the *Evasterias troschelli*, a large sea star that has had a huge effect and important role on the inner tidal ecosystem [slides 14-15].

10:19:31 AM

MS. RIDGWAY was alarmed when last week in Sitka she observed a parasite that was very large attached to the sea star [slide

15]. She noted photographs taken at the Sitka Sound Science Center sea star tanks with distressed and dying organisms. She continued with pictures and a summary of specimens taken in Sitka including the *Evasterias troschelli*, the *Mediaster aequalis* vermillion star, the *Leptasterias epichlora* six-rayed sea star, and the *Solaster dawsonii* sun star [slides 16-20].

10:22:16 AM

MS. RIDGWAY explained the importance of sea stars as an icon for intertidal areas, acting as a keystone species to indicate the health of a beach. These sea stars are highly mobile predators, consuming bivalves, snails, crabs, and many other species. The disappearance of sea stars from a beach can cause a surge of other species and an imbalance in the ecosystem [slide 21].

10:24:04 AM

MS. RIDGWAY noted the warming that the Pacific Ocean is experiencing and the National Oceanic and Atmospheric Administration (NOAA) information that is being reported on changing ocean temperatures associated with El Nino [slide 22]. She indicated that as water temperatures increase, metabolic demands increase in herring roe, and the implications could affect fish hatching out at this time. She said NOAA has been monitoring and tracking temperatures in Sitka Sound, and she reported on the monitoring and steps for the studies that are underway or planned, which include data from a NOAA buoy and satellite and fish hatcheries in the area. She said the SSWD has an active research collaboration network; observations on sea stars and ecosystems effects are being made and maps are being updated. She said the efforts are active and informative and are being managed by the National Park Service [slide 24]. Ongoing monitoring efforts will be made in Sitka, and she has conferred with the chief Alaska Department of Fish & Game scientist, and the department will be conducting dive research for geoduck and surveying herring spawn and will watch for any signs of sea star wasting in subtidal areas. She reported that tissue samples have been preserved and shipped to pathology labs and she anticipated results in the next few weeks.

10:26:52 AM

MS. RIDGWAY asked the rhetorical question, "Should Alaska do more?" and offered several points to consider, including informing people on what to expect, especially for young students, and what people can do if they observe diseased or

sick sea stars. She suggested people could photograph and record any information. She discouraged people from collecting sea stars without following proper protocol for potentially pathogenic specimens. She further suggested state participation in research on the effects if it appears the sea star wasting is going to be more widespread.

10:27:59 AM

CHAIR SEATON noted that whatever is affecting the sea stars could have widespread implications in marine ecology and he thanked Ms. Ridgway for the presentation.

10:28:20 AM

ADJOURNMENT

There being no further business before the committee, the House Special Committee on Fisheries meeting was adjourned at 10:28 a.m.