ALASKA STATE LEGISLATURE
HOUSE RESOURCES STANDING COMMITTEE
February 23, 2007
1:08 p.m.

MEMBERS PRESENT

Representative Carl Gatto, Co-Chair
Representative Paul Seaton
Representative Peggy Wilson
Representative David Guttenberg
Representative Scott Kawasaki

MEMBERS ABSENT

Representative Craig Johnson, Co-Chair
Representative Vic Kohring
Representative Bob Roses
Representative Bryce Edgmon

COMMITTEE CALENDAR

HOUSE BILL NO. 26
"An Act relating to aquatic farm permitting involving geoducks and to geoduck seed transfers between certified hatcheries and aquatic farms."

- HEARD AND HELD

HOUSE BILL NO. 127
"An Act amending the boundaries of the McNeil River State Game Sanctuary."

- HEARD AND HELD

PREVIOUS COMMITTEE ACTION

BILL: HB 26
SHORT TITLE: GEODUCK AQUATIC FARMING EXEMPTION
SPONSOR(s): REPRESENTATIVE(s) SEATON

01/16/07	(H)	PREFILE RELEASED 1/5/07
01/16/07	(H)	READ THE FIRST TIME - REFERRALS
01/16/07	(H)	FSH, RES
02/02/07	(H)	FSH AT 8:30 AM CAPITOL 124
02/02/07	(H)	Heard & Held
02/02/07	(H)	MINUTE(FSH)

02/05/07	(H)	FSH AT 8:30 AM CAPITOL 124
02/05/07	(H)	Heard & Held
02/05/07	(H)	MINUTE(FSH)
02/07/07	(H)	FSH AT 8:30 AM CAPITOL 124
02/07/07	(H)	Moved CSHB 26(FSH) Out of Committee
02/07/07	(H)	MINUTE(FSH)
02/08/07	(H)	FSH RPT CS(FSH) 1DP 4NR
02/08/07	(H)	DP: SEATON
02/08/07	(H)	NR: LEDOUX, JOHANSEN, HOLMES, EDGMON
02/23/07	(H)	RES AT 1:00 PM CAPITOL 124

BILL: HB 127
SHORT TITLE: MCNEIL RIVER STATE GAME SANCTUARY
SPONSOR(s): REPRESENTATIVE(s) SEATON

02/12/07	(H)	READ THE FIRST TIME - REFERRALS
02/12/07	(H)	RES, FIN
02/23/07	(H)	RES AT 1:00 PM CAPITOL 124

WITNESS REGISTER

RODGER PAINTER, President
Alaska Shellfish Growers Association
Juneau, Alaska
POSITION STATEMENT: Testified in support of HB 26.

ALAN AUSTERMAN
Juneau, Alaska
POSITION STATEMENT: Testified that HB 26 is really an economic development issue and moving geoducks from one part of the state to another provides an opportunity and isn't really problematic.

JIM SEEB, Chief Fisheries Scientist
Division of Commercial Fisheries
Alaska Department of Fish & Game
Anchorage, Alaska
POSITION STATEMENT: During hearing of HB 26, expressed concerns with regard to the unknown and unintended consequences of introducing a species to areas in which it is not naturally occurring.

JOHN HILSINGER, Fishery Biologist IV
Division of Sport Fish
Alaska Department of Fish & Game
Anchorage, Alaska
POSITION STATEMENT: During hearing of HB 26, expressed concerns with regard to the unknown and unintended consequences of

introducing a species to areas in which it is not naturally occurring.

CYNTHIA PRING-HAM, Mariculture Coordinator
Division of Commercial Fisheries
Alaska Department of Fish & Game
Juneau, Alaska
POSITION STATEMENT: Answered questions in regard to geoducks.

JEFF HETRICK, Director
Alutiiq Pride Shellfish Hatchery
Seward, Alaska
POSITION STATEMENT: Answered questions in regard to geoducks.

DAVID OTNESS
Shellfish grower
Seward, Alaska
POSITION STATEMENT: Supported geoduck farming and mariculture in Alaska.

ACTION NARRATIVE

CO-CHAIR CARL GATTO called the House Resources Standing Committee meeting to order at 1:08:48 PM. Representatives Gatto, Kawasaki, Kohring, Wilson, and Guttenberg were present at the call to order.

HB 26-GEODUCK AQUATIC FARMING EXEMPTION

1:09:21 PM

CO-CHAIR GATTO announced that the first order of business would be HOUSE BILL NO. 26, "An Act relating to aquatic farm permitting involving geoducks and to geoduck seed transfers between certified hatcheries and aquatic farms." [Before the committee was CSHB 26(FSH).]

1:09:39 PM

REPRESENTATIVE SEATON, speaking as the sponsor of HB 26, explained that the bill specifies that the Alaska Department of Fish & Game (ADF&G) cannot use the absence of geoducks in an area as the reason for denying a mariculture farm permit. Therefore, this legislation allows geoduck farmers in an area without geoducks to apply for permits. He informed the committee that geoducks are the largest clam in North America. Geoducks live on the bottom, are not mobile at all, and dig down

about one foot per year as they grow. Representative Seaton pointed out that geoducks became valuable as a result of improved marketing and thus have risen from $1 per pound to $10 per pound. They are sold live to Asia. Furthermore, it is recognized that the more clams that become available from Alaska, the more Alaska will be viewed as a source for geoducks. He said the natural range of geoducks is from Puget Sound through Canada to Alaska, as far north as Tenakee Springs. No known infectious diseases have been identified in geoducks, in the wild or the farming in British Columbia and the State of Washington. The only problem is warts on the outside of the shell that are caused by certain cells in the muscle tissue that are then moved by the clam to the outside of its shell.

1:14:17 PM

REPRESENTATIVE SEATON related that geoducks are probably some of the longest living animals in the world, with reports of geoducks living to be 140-168 years old. Furthermore, geoducks grow fast as small clams and are harvestable in seven years. The legislation before the committee restricts geoduck farming to the subtidal zone in areas located north of Southeast Alaska. The aforementioned means that there won't be conflicts with those who land skiffs on the beach, dig clams, and collect seaweed. Geoduck farms in the subtidal zone will not be exposed, even at a very low tide. These farms do not require the tremendous number of buoys that are required for suspended culture for oyster farms in Prince William Sound and Cook Inlet where there have been conflicts because people cannot boat due to the buoys. Therefore, the benthic farms proposed in HB 26 will not have that conflict.

1:16:07 PM

REPRESENTATIVE SEATON, addressing the fact that these proposed farms would be outside the larval drift zones, opined that these geoducks will likely not be sexually active/mature and thus will not place larvae into the water column at the sites north [of Juneau]. However, he acknowledged that cannot be determined for sure. Representative Seaton then turned to the department's concern with regard to having geoducks in an area where they are not naturally occurring, which he characterized as the ecological concern. However, he pointed out that the aforementioned must not have been of too much concern since ADF&G has permitted a geoduck farm 35 miles north of Juneau, an area outside of where geoducks occur naturally, and there does not seem to be any detrimental impacts. This legislation, he

opined, offers a manner in which to provide a possible economic base for isolated communities with very little risk as geoducks are not a new species in Alaska. He highlighted that nothing in HB 26 allows the importation of geoduck seed from outside of Alaska.

1:18:47 PM

REPRESENTATIVE SEATON, in response to Representative Kawasaki, informed the committee that the geoduck farm in Bridget Cove is located above the range of where geoducks naturally occur. The farm in Bridget Cove has been permitted, but has not yet gone into operation.

REPRESENTATIVE KAWASAKI, referring to "Attachment 1 Introduced Species (Transporting Geoducks Outside Their Natural Range)," drew attention to the following: "In summary, introduced species are a major threat because their interactions with other biota are unpredictable ...."

REPRESENTATIVE SEATON said that he is very cognizant of that, adding that he is very opposed to finfish farming. He specified that he is not supportive of introducing a predatory or mobile species into an area. However, geoducks are a sedentary species for which there is a history in Southeast Alaska. He opined that it is not reasonable to assume that geoducks are a species for which there is no history or for which a reasonable projection can be made. Much information has been gathered from laboratories reviewing Southeast Alaska. No one has presented any information that the presence of geoducks in southern Southeast has displaced other animals in northern Southeast Alaska. Geoducks, he pointed out, must be buried in the appropriate substrate, and therefore would not compete with any other species.

1:22:02 PM

REPRESENTATIVE GUTTENBERG inquired as to who is present to testify.

CO-CHAIR GATTO surmised that Representative Guttenberg's concern is the biology of the situation. To that concern, he pointed out that both he and Representative Seaton have a master's degree in biology, with Representative Seaton having a master's in zoology and Co-Chair Gatto in ecology. Co-Chair Gatto related that he had concern with introducing a species into an environment where it was not previously present.

1:23:27 PM

REPRESENTATIVE SEATON clarified that the area in which the geoducks would be introduced is basically fine sediments, mud flats. He pointed out that it is difficult to say that an environment is unoccupied. He acknowledged that the department has expressed concern that polychete worms could be influenced by the introduction of geoducks. However, the only study done has found that in areas where geoducks have been harvested, the polychete worm population saw a slight increase. Representative Seaton noted that geoducks are filter feeders and eat plankton, and thus if they are planted too densely they will grow more slowly. Although there is a general concern of environmental conditions, there has been no identified species that geoducks would displace.

1:25:02 PM

REPRESENTATIVE WILSON asked if Representative Seaton has talked with any of the geoduck farmers.

REPRESENTATIVE SEATON replied, yes. He related that the only concern originally was whether there would be a problem with marketing and possibly having too many geoducks. However, it seems that farmers are not worried because an increase of geoducks coming from Alaska will result in more people looking to Alaska as a good supplier. The market, he opined, is fairly unlimited for live geoducks in Asia. He recalled from the House Special Committee on Fisheries meeting the question of larval drift zones and whether geoducks introduced into the Prince William Sound or Kodiak areas could impact Southeastern Alaska if they unexpectedly became reproductively active. He said that there would not be an impact as the possibility of larvae being able to move from Kodiak to Southeast Alaska is almost impossible according to the larval drift zone theory.

1:27:14 PM

REPRESENTATIVE SEATON, in further response to Representative Wilson, specified that the geoduck seed would have to come from Southeast Alaska populations. The legislation specifies that the seed cannot be imported and can only come from an Alaska certified hatchery, the only one of which is located in Seward. He said that not very many animals are needed to supply the seed necessary.

1:28:14 PM

REPRESENTATIVE WILSON related that one of the geoduck farmers in her district ordered and paid for seed, but then never received it. Since he missed the [seeding time], he had to wait for the next [seeding] season. Therefore, she questioned who would receive the first batch of seed from the one source in the state.

REPRESENTATIVE SEATON directed attention to a letter in the committee packet from the manager of the geoduck hatchery. Part of the problem with supplying geoducks is that there are only a few farms and the hatchery has not been able to get people to commit to ordering them. Therefore, if more people are purchasing geoducks, then the hatchery can plan ahead and raise more. He recalled that the state put in $2.3 million to get the mariculture hatchery going. Representative Seaton said that the legislature needs to make the decision to either subsidize the mariculture hatchery, let it generate enough money in coordination with the industry to be self-sustaining, or get out of the mariculture business. However, it is difficult because geoducks are a significant part of the plan with the hatchery. In fact, only one person has put money down for raising geoduck seed ahead of time. Permitting has been problematic, but that should change, he opined, as some of these farms come on board.

1:31:56 PM

REPRESENTATIVE SEATON, in response to Co-Chair Gatto, confirmed that the hatchery is currently operating. In further response to Co-Chair Gatto, Representative Seaton utilized a map to illustrate the area along the Gulf of Alaska where HB 26 would allow people to apply for geoduck permits as long as there is not something in the area that would prohibit it. For instance, in the critical habitat area in Homer the farming of shellfish would not be allowed. Therefore, geoducks would not be allowed, even under HB 26. This legislation merely says that ADF&G cannot use the absence of geoducks as the criteria to prohibit permitting a farm.

1:34:14 PM

REPRESENTATIVE GUTTENBERG inquired as to ADF&G's theory regarding why geoducks are not naturally located farther north or west.

REPRESENTATIVE SEATON answered that ADF&G has not had that explanation. He offered that the reason could be related to the photoperiod or it could be the temperature. He related that in [the north and west of Southeast Alaska] oysters grow well, but do not become actively reproductive because the water temperature is too cold. As far as marketing, oysters that do not spawn are a better product because once they spawn they become bitter.

1:36:38 PM

REPRESENTATIVE GUTTENBERG directed attention to the language on page 1, lines 9-10, which says "the permit may not allow operations for that purpose in the intertidal habitat or environment". Therefore, he questioned the location of geoduck habitat.

REPRESENTATIVE SEATON clarified that "intertidal" means that the geoducks would be exposed during a low tide. Therefore, not allowing operations in an intertidal zone would protect existing uses from being displaced, such as the collection of clams and seaweed. He mentioned that in the State of Washington much of the farming is done in the intertidal zone. Although geoducks exist as deep as 300 feet in Puget Sound, they mainly live between 10 and 80 feet in depth. For the operations in Alaska, the depth is generally less than 30 feet. In response to Co-Chair Gatto, Representative Seaton specified that geoducks do live in the intertidal mud flats in the State of Washington. He then noted that the Bridget Cove permit can be intertidal and that decision will be left to the permittee. The further north in Alaska the worse the conditions [for the geoduck due to the colder water temperature].

1:40:48 PM

REPRESENTATIVE GUTTENBERG pointed out that this legislation limits geoduck farms to areas contiguous to the Gulf of Alaska. He inquired as to the rationale of only limiting the expansion of [geoduck farms] to the Gulf of Alaska.

REPRESENTATIVE SEATON said he would be willing to talk with anyone [from Bristol Bay or the Aleutians] who is interested in geoduck farming in those areas. He suggested that ADF&G would not be supportive of including the Beaufort Sea. "I can pretty much say that ... the species and everything within the Gulf of Alaska has a very broad distribution and they can be different than those that are up in the Bering Sea," he related.

1:41:51 PM

REPRESENTATIVE GUTTENBERG asked if there has been any discussion with regard to transferring sterilized seed.

REPRESENTATIVE SEATON responded that it is theoretically possible. Although it has not been done with geoducks, it has been done with some clams, he noted. He related that ADF&G has not said it would support the introduction of genetically changed stock, but has said that it would consider a triploid or a sterile animal. He related that basically these small farmers interested in sterile stock are being asked to somehow fund basic research. He then related his understanding that a university in British Columbia or Washington is attempting this, but have not been successful. He reiterated that the geoducks in the proposed expansion area will probably be functionally sterile because of the cold water, although that is not a certainty.

1:45:38 PM

REPRESENTATIVE SEATON, in response in to a question from Representative Guttenberg, related his belief that if the ADF&G commissioner is denying geoduck permits, he is probably in violation of the law. He explained that in 2002 House Bill 208 passed and it specifically said that the two conditions to receive permits in an area are as follows: that there are no geoducks in the area; and that if there is a geoduck population, it must be insignificant. Therefore, when the commissioner denies permits based on the absence of geoducks in an area, the commissioner is in direct violation of that. He highlighted that the record does not specify any intention for that to speak only to Southeastern Alaska. Therefore, HB 26 is really clarifying legislation. Representative Seaton explained:

> The big problems with geoducks here has been with the farms and permits is that there are geoducks in most of these areas. And where people want to put farms are in areas where you have good upwelling and where you have geoducks. Then you have a wild stock, which the ... dive industry wants to harvest and that's exactly where people want to site the farm. So, that has been what the big geoduck contention has been in the past. How do we take a resource which all of us own ... and it has been historically targeted by a commercial fishery and now turn ... part of that area

into a farm. And that's not a problem for anywhere up here.

1:47:37 PM

CO-CHAIR GATTO recalled when zebra mussels were accidentally introduced in the Great Lakes. Zebra mussels sought to live in sewer lines which they ultimately clogged. Co-Chair Gatto said he has serious concerns with regard to introducing an animal where it does not currently exist. However, he related his belief that some geoduck seeds have drifted all over but have not found the right environment, possibly due to the water temperature, otherwise they would have settled and reproduced. Therefore, if global warming happens and waters warm, geoduck will eventually reproduce in these areas. The question, he opined, is whether this risk of expanding the areas in which geoduck farms are allowed should be taken. He related his support of the legislation because the work has been done and that if the geoduck farm expansion does not work, "we're" no worse off. Co-Chair Gatto said that he is willing to take the risk unless some forthcoming testimony convinces him otherwise.

1:54:16 PM

RODGER PAINTER, President, Alaska Shellfish Growers Association, spoke in favor of HB 26. He characterized the legislation as a simple bill that should not raise the red flags of exotic species, genetic nightmares, or disease. He opined that there has been no determination that geoducks pose any threat to the habitat or other fisheries resources. Geoducks do not move, are very clean animals, and have very little effect on the sandy environment in which they live. Furthermore, geoduck beds are predominantly geoducks and aren't a mix of other species. Contrary to what Representative Seaton said, geoducks do occasionally reach the intertidal areas in Alaska. In terms of disease, Mr. Painter highlighted that Alaska probably has the most stringent shellfish pathology program in the U.S. In terms of genetics, he opined that there should not be concerns if these animals are farmed in areas where they do not occur naturally. Mr. Painter pointed out that there is a large division in terms of the water flow between Southeast Alaska and Prince William Sound and thus it's very difficult to see how the animals could ever make that leap. The water flows in opposite directions as evidenced by the Exxon Valdez oil spill in which the tar balls traveled through Prince William Sound and on through Cook Inlet and down the Alaska Peninsula.

1:59:23 PM

MR. PAINTER then turned to the natural range of species, which is an argument of ADF&G. The natural range of a species, he opined, is a moving target because the range of these animals will change as the ocean environment changes. For example, there is some evidence that geoducks once existed in Kachemak Bay. If the oceans continue to warm, geoducks could again be seen in Kachemak Bay. Mr. Painter suggested that trying to limit everything to what is today doesn't offer very good vision as illustrated by the fact the location of the capital was once under ice and many of today's species weren't here. He then offered another possible result. Last year the Russians sold about $250 million-worth of king crab that were harvested from the Berents Sea. These are progeny of stocks that were transplanted in the 1950s from the Bering Sea to the Berents Sea. Mr. Painter suggested that a community such as Kodiak would like the infusion of a $250 million harvest.

2:02:02 PM

MR. PAINTER, drawing from his geoduck farmers, related that they found very little concern about competition for seed or market competition. The response was that it would be [preferable] to solve the problems with ADF&G over existing geoduck permits prior to moving on to another venture. Contrary to ADF&G testimony, the department has approved experiments in which species were moved beyond their natural range. Mr. Painter related that he personally had a permit to take purple-hinged rock scallops from Southeast and plant them on Unalaska Island. However, the purple-hinged rock scallops died in transit.

2:04:09 PM

MR. PAINTER acknowledged the intertidal concerns, but pointed out that probably the lowest cost way to get involved in geoduck culture is through intertidal culture. He then voiced reservations about geoduck culture further north because of the growth rates. Although not much is known about the biology of geoducks, one known is that they are fairly lethargic at temperatures below 50°F. Therefore, farmers always wait to plant juvenile geoducks until the water is above 50°F so they will dig themselves in. As the temperature cools, geoducks don't show much because they aren't actively feeding. When geoducks are actively feeding, one will see their necks sticking out of the sea bottom. He pointed out that there are fewer days in which the temperatures are warmer than 50°F in Prince William

Sound and Kodiak than in southern Southeast Alaska. Therefore, he guessed that the growth rates would be slow enough that it would not be economically viable to farm geoducks in those areas.

MR. PAINTER offered the following corrections to earlier statements. He related that the Bridget Cove geoduck farm does have geoducks in it, although not many. In terms of ADF&G's designated larval drift zones, the Alaska Shellfish Growers Association proposed that these larval drift zones be eliminated while the department proposed that they be increased from three to twelve zones. After much negotiation, six larval drift zones were designated. Also, ADF&G's memorandum says it would take a change in statutes to allow the importation of aquatic stocks into the state. However, that's not the case because the importation of aquatic stocks is regulated by the Board of Fisheries, which can, through regulation, allow even exotic species into the state.

2:08:56 PM

MR. PAINTER, in response to Representative Wilson, related that unique to geoducks is their retention of the toxin in paralytic shellfish poisoning. He informed the committee that within a one-square-foot area the toxin levels in the clams would range "all over the board." He suggested that the aforementioned is due to the fact that most of the fisheries are taking place during the winter months when some [are not feeding and do not flush out the toxins].

2:10:30 PM

ALAN AUSTERMAN, testifying on his own behalf, began by relating that he has spent the last four years working with the shellfish industry on how it can expand and grow. He noted that not all the problems were created by the Murkowski Administration as evidenced by the many regulations established by the Knowles Administration. There are some inherent problems with how ADF&G manages wild stocks versus farmed stocks. He highlighted that ADF&G's mandate is to manage wild stocks, which is evidenced further in the department's testimony at the last House Special Committee on Fisheries' meeting. Mr. Austerman opined that this is really an economic development issue and moving geoducks from one part of the state to another provides an opportunity and isn't really problematic. With regard to the previously mentioned problems with the hatchery, he opined that those were created because road block after road block was created during

this process of establishing the geoduck industry. He attributed the aforementioned to the Knowles Administration under which geoduck farms were permitted in areas where geoducks already existed. The conflicts between farmed and wild stocks has caused much controversy and many problems. He opined that the hatchery built itself up thinking the geoduck industry would grow and expand, but it didn't. Therefore, the hatchery has suffered and efforts to establish a shellfish hatchery in Ketchikan did not manifest because the industry was not moving forward fast enough.

MR. AUSTERMAN then expressed his disappointment with the earlier comparison of geoducks and zebra mussels. Zebra mussels are like ground cover that chokes out other things whereas clams, geoducks, live under the substrate and have their neck up to filter the water and thus do not move in and destroy an area. With regard to the use of sterile geoducks, Mr. Austerman opined that it's apparent that the conditions of reproduction aren't present due to the temperature of the water. He suggested that 1,000 years ago there probably weren't any geoducks in Southeast Alaska. If evolution continues and geoducks naturally occur in Southeast Alaska, he inquired as to the problem even if they did reproduce and grow in an area where they are not today.

2:16:01 PM

MR. AUSTERMAN suggested that there will be many issues that the legislature will become involved with, including the need to move the farming aspect of shellfish out of ADF&G and to DNR. He noted that his discussions with the ADF&G on the aforementioned have not elicited any strong objections.

2:16:51 PM

CO-CHAIR GATTO acknowledged that the zebra mussel is a different species and thus its use in the example was simply to relate a situation in which a species was introduced. Furthermore, the reference to evolution is really a reference to migration.

2:17:24 PM

JIM SEEB, Chief Fisheries Scientist, Division of Commercial Fisheries, Alaska Department of Fish & Game, noted his agreement that the area north of Cape Fairweather up to Cape St. Elias is a real barrier to migration for many animals. The department has some serious concerns with the uncertainty associated with any fish or shellfish introduction. He pointed out that geoduck

larvae naturally occurs throughout Southeast Alaska and those settle on some beaches and develop thriving populations. However, geoducks don't naturally occur in Southcentral Alaska and if transplanted, the consequences are uncertain. If geoducks introduced in Southcentral Alaska did reproduce, the females produce millions of larvae each year that could spread rapidly and could compete in the water column, cause predator increases for other species, compete in the food web, and alter the food web in unpredictable ways. With regard to the aforementioned thriving red king crab fishery that was transplanted into the Berents Sea, Mr. Seeb pointed out that those crabs have migrated to the Norwegian Sea and completely disrupted the economy of Norway with its cod fishery. The aforementioned uncertainties come with introducing species. The Internet offers example after example of catastrophic unintended consequences resulting from introducing species.

2:21:19 PM

JOHN HILSINGER, Fishery Biologist IV, Division of Sport Fish, Alaska Department of Fish & Game, reiterated the department's concern with regard to the introduction of species in areas where they do not currently exist. Typically, when a species doesn't exist in a certain area, there's a reason although it's not always apparent. Therefore, the fact that [certain species] don't exist in an area doesn't mean that they can't be introduced, survive, reproduce, and potentially cause some problems. For that reason, Mr. Hilsinger suggested that one should not assume that geoducks could not survive and reproduce in areas such as Kachemak Bay and Prince William Sound.

2:22:10 PM

CO-CHAIR GATTO inquired as to what happens if they are introduced in the aforementioned areas and do reproduce. He highlighted that geoducks don't move. He questioned whether Mr. Hilsinger is concerned because he does not want to introduce any species [to an area where they are not naturally occurring] or is this species in particular suspect.

MR. HILSINGER clarified that geoducks do move as they have a fantastic larval drift. Females produce millions of larvae that enter the currents and drift from area to area. There is no information with regard to whether geoducks would reproduce in Southcentral, but if they did they could disrupt other species in that area as well as the food web in ways that cannot be predicted. Most introductions that have had catastrophic

impacts were impacts that weren't predicted. For example, the State of Montana introduced mysis shrimp into Flathead Lake in order to enhance the kokanee population that was feeding on daphnia. However, the mysis shrimp were never available to the kokanee in the water column, and in fact the shrimp ate all the daphnia. The kokanee population then crashed and the eagles that depended on the kokanee population crashed, and the bears left. Such situations in which unintended consequences ripple through the ecosystem have caused many states to be very cautious with regard to introducing a species. Mr. Hilsinger then pointed out that the larval drift zones in Alaska are more liberal than those in Washington and Canada, which he attributed partly to pressure from the aquaculture industry. He mentioned that the department did work with Mr. Painter in order to make compromises that could facilitate aquaculture development.

2:25:20 PM

CO-CHAIR GATTO posed a situation in which geoduck larvae drifted and settled in Polly Creek, and asked Mr. Hilsinger to predict whether the geoducks would compete or coexist with the razor clams that are naturally there or would the geoducks die off.

MR. HILSINGER said he would hesitate to forecast the situation at all because the outcome of transplanting any species outside of its native range is unpredictable. He said that the larvae may settle in some areas or they may cause competition problems in the water column. It is unknown whether the larvae of native species would be out competed in the water column by the larvae of a new species. The impacts would not be limited to those occurring after settling, they could occur anywhere in the food web.

2:26:42 PM

REPRESENTATIVE WILSON asked whether water in Southeast Alaska's latitude is warmer than water in the latitude of the Aleutian Chain.

MR. HILSINGER explained that there are fixed oceanic currents and temperatures and that these occur in certain patterns; therefore, latitude cannot be used in determining water temperatures.

2:27:48 PM

REPRESENTATIVE GUTTENBERG asked why there is no fiscal note when there is a need for ADF&G to conduct research on geoduck farming.

MR. HILSINGER explained that as chief scientist he cannot answer the question. He related that the ADF&G commissioner is trying to follow the governor's lead in being frugal. He agreed that there needs to be research whether or not geoducks are transplanted outside of their native range. He noted that ADF&G has co-authored research proposals with the previous operators of the [Seward] hatchery to study a variety of topics, including development of sterile scallops. He said that he thought the hatchery was now raising 6-8 species of bivalves.

2:29:34 PM

REPRESENTATIVE SEATON asked what species would geoducks compete with or displace in Southeast Alaska.

MR. HILSINGER said that Representative Seaton accurately described the competition in the substrate for where geoducks occur naturally in Southeast Alaska, and that competition is probably with a few tunicate worms. When a species occurs naturally there is natural predation and competition that keeps everything in balance. He said he does not fully understand the impacts and what the competition would be in the larval drift area when there are millions of larvae from many different species co-migrating.

2:30:28 PM

REPRESENTATIVE SEATON asked what species would be displaced by adult geoducks in the Kodiak and Prince William Sound areas or was Mr. Hilsinger only talking about geoduck larvae in the plankton.

MR. HILSINGER reiterated that the results can be unpredictable as he pointed out with the aforementioned examples of red king crab and mysis shrimp. He explained that history from around the world shows that introducing species often causes serious and unintended consequences. Therefore, he emphasized, states and nations globally do not endorse introducing species without extensive research ahead of time. He stressed that research has not been done to know what could occur in Alaska.

MR. HILSINGER further explained that ADF&G is not worried about displacement as much as an ecosystem change and disruption of

the food web. The impact of introducing geoducks might not be displacement in the substrate. Instead, he said, it might be displacement in the water column, or the billions of new larvae drifting in an area might cause the buildup of a primary predator that would then impact native bivalves.

2:33:44 PM

CYNTHIA PRING-HAM, Mariculture Coordinator, Division of Commercial Fisheries, Alaska Department of Fish & Game, in response to a question, stated that the species name for geoducks is Panopea abrupta and that it was previously named Panopea generosa. She further explained that there are a couple of species in the Panopea genus that are found within the Northwest Region. She offered to supply the committee with further information in regard to the different species.

2:34:44 PM

CO-CHAIR GATTO asked whether it would be possible for geoducks to extract only their favorite food from the water column and thereby cause a bloom of other species in the water column.

MS. PRING-HAM said she is unfamiliar with how much phytoplankton a geoduck utilizes and that she did not believe research has been done on that particular issue. She further explained that geoducks only eat phytoplankton, not zooplankton. In response to additional questions, she said that phytoplankton migrate within the water column and would not photosynthesize when located in deep water, but that photosynthesis would occur when the phytoplankton is in the intertidal zone where there is light penetration. She stated that there are a lot of unknowns in oceanography and she is unable to answer whether geoducks could cause a bloom.

2:36:46 PM

REPRESENTATIVE WILSON related her assumption that ADF&G has not done research on geoducks because it has not been funded by the legislature. She asked if conducting the research could be done without hiring additional personnel.

MS. PRING-HAM explained that ADF&G does not currently have research for geoducks beyond the reconnaissance surveys that are done for the commercial fishery. She expressed her belief that, unless priorities are changed by the ADF&G commissioner, additional money would be needed for hiring more staff to

conduct the research because current employees are working at their limit. She said that an option to hiring more staff is going out to contract; for example much of the research on geoducks in Washington state is being done by the University of Washington.

2:38:23 PM

JEFF HETRICK, Director, Alutiiq Pride Shellfish Hatchery, explained that in some states triploidy or tetraploidy is used as a management tool to alleviate the concerns for introductions in terms of having reproductive stocks. He said that in his opinion this technology is proven for oysters but not for other shellfish species and that current technology would not solve the issues being discussed by the committee. In regard to geoducks becoming reproductive and filling up the water column, he stated his belief that having a lot of geoducks would be a good thing because then there would be a lot of wealthy people.

MR. HETRICK, in response to a question about triploidy and tetraploidy, explained that a chemical is introduced shortly after the fertilization process to change the chromosomal makeup of the fertilized egg and render it sterile. Making oysters non-reproductive is done not only because of the introduced-species issue, but also as a market-quality issue since oysters become gooey and unmarketable when they go into a reproductive state. He explained that the problem with triploidy is that it is not 100 percent effective in producing sterility.

2:43:08 PM

DAVID OTNESS, shellfish grower, informed the committee that he was involved with the Egan Administration during the creation of the first salmon hatcheries. He further informed the committee that more recently he was a member of Governor Palin's transition team for ADF&G. He said the relationship [of shellfish growers] with ADF&G has been disappointing because of the agency's fears. He estimated that a geoduck industry could be worth several hundred million dollars a year and that he would like to see a paradigm shift to mariculture as is happening in the rest of the world. In response to a question, he stated that he is not in favor of fish farms.

MR. OTNESS, in response to questions about the Exxon Valdez oil spill, stated that he was not shellfish farming at that time, but that significant damage would have occurred had he been farming. He said he is unable to say if there has been a

recovery in wild shellfish from the spill because periodic die-offs occur naturally in shellfish. He further noted that salmon sharks have increased significantly since the establishment of fish hatcheries in Prince William Sound. He also noted that "dogfish" have moved from "Southeast" out to Kodiak and that they are a huge nuisance. He said he believes that issues are not being addressed that could bring back some of the stocks.

2:49:27 PM

CO-CHAIR GATTO closed public testimony after ascertaining that no one else wished to testify. He said that HB 26 would be held over.

HB 127-MCNEIL RIVER STATE GAME SANCTUARY

2:50:53 PM

CO-CHAIR GATTO announced that the final order of business would be HOUSE BILL NO. 127, "An Act amending the boundaries of the McNeil River State Game Sanctuary."

2:51:11 PM

REPRESENTATIVE SEATON, speaking as the sponsor of HB 127, explained that HB 127 would add two areas to the McNeil River State Game Sanctuary. These two small areas, one in the McNeil River area and one in the Katmai area, have generated a huge economy in bear viewing and are being put at risk by a proposed hunt. The bill would prevent hunting in these two areas.

2:52:13 PM

CO-CHAIR GATTO announced that HB 127 is being held until the next committee meeting.

ADJOURNMENT

There being no further business before the committee, the House Resources Standing Committee meeting was adjourned at 2:52:35 PM.