

**ALASKA STATE LEGISLATURE**  
**SENATE RESOURCES STANDING COMMITTEE**

February 8, 2017

3:30 p.m.

**MEMBERS PRESENT**

Senator Cathy Giessel, Chair  
Senator John Coghill, Vice Chair  
Senator Natasha von Imhof  
Senator Bert Stedman  
Senator Shelley Hughes  
Senator Kevin Meyer  
Senator Bill Wielechowski

**MEMBERS ABSENT**

All members present

**COMMITTEE CALENDAR**

OVERVIEW: MAPPING THE STATE OF ALASKA

- HEARD

SENATE BILL NO. 6

"An Act relating to industrial hemp; and relating to controlled substances."

- HEARD & HELD

**PREVIOUS COMMITTEE ACTION**

BILL: SB 6

SHORT TITLE: INDUSTRIAL HEMP PRODUCTION

SPONSOR(S): SENATOR(S) HUGHES

01/09/17	(S)	PREFILE RELEASED 1/9/17
01/18/17	(S)	READ THE FIRST TIME - REFERRALS
01/18/17	(S)	RES, JUD
02/08/17	(S)	RES AT 3:30 PM BUTROVICH 205

**WITNESS REGISTER**

ED FOGELS, Deputy Commissioner  
Alaska Department of Natural Resources (DNR)

Juneau, Alaska

**POSITION STATEMENT:** Participated in the overview of "Mapping the State Of Alaska."

NICHOLAS MASTRODICASA, Large Project Manager  
Alaska Department of Transportation and Public Facilities  
(DOTPF)

Anchorage, Alaska

**POSITION STATEMENT:** Participated in the overview of "Mapping the State Of Alaska."

KEVIN GALLAGHER, Associate Director  
Core Science Systems  
United States Geological Survey (USGS)

**POSITION STATEMENT:** Participated in the overview of "Mapping the State Of Alaska."

SENATOR HUGHES  
Alaska State Legislature  
Juneau, Alaska

**POSITION STATEMENT:** Sponsor of SB 6.

BUDDY WHITT, staff to Senator Hughes  
Alaska State Legislature  
Juneau, Alaska

**POSITION STATEMENT:** Provided an overview of SB 6.

ARTHUR KEYES, Director  
Division of Agriculture  
Department of Natural Resources (DNR)  
Anchorage, Alaska

**POSITION STATEMENT:** Commented on SB 6.

ROB CARTER, Manager, Alaska Plant Materials Center  
Division of Agriculture  
Department of Natural Resources (DNR)  
Anchorage, Alaska

**POSITION STATEMENT:** Commented on SB 6.

FRANK TURNEY, representing himself  
Hempsters  
Fairbanks Alaska

**POSITION STATEMENT:** Supported SB 6.

JOHN BRADING, representing himself  
Hempsters  
Fairbanks Alaska

**POSITION STATEMENT:** Supported SB 6.

EMBER HAYNES, representing herself  
Denali Hemp Company  
Talkeetna, Alaska

**POSITION STATEMENT:** Supported SB 6.

BRUCE SHULTE, representing himself  
Anchorage Alaska

**POSITION STATEMENT:** Supported SB 6.

MICHAEL DRUCE, Owner  
Summer Peonies  
Sterling, Alaska

**POSITION STATEMENT:** Supported SB 6.

JACK BENNETT, representing himself  
Homer, Alaska

**POSITION STATEMENT:** Supported SB 6.

#### **ACTION NARRATIVE**

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**CHAIR CATHY GIESSEL** called the Senate Resources Standing Committee meeting to order at 3:30 p.m. Present at the call to order were Senators Wielechowski, Coghill, Hughes, Meyer, von Imhof, Stedman, and Chair Giessel.

#### **Overview: Mapping the State of Alaska**

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**CHAIR GIESSEL** said Alaska is the most unmapped state in the union. Virtually every resource is underestimated because of the lack of good mapping. With new technologies, mapping is transitioning from two-dimensional to three-dimensional capabilities providing greater insight than ever before. Today the committee would hear about the culmination of a two-year program that leveraged significant federal funds as well as the expertise of the U.S. Geological Survey (USGS) to develop a mapping system that will serve the state and country for generations to come. She welcomed Ed Fogels and Nick Mastrodicasa to begin the presentation.

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**ED FOGELS**, Deputy Commissioner, Alaska Department of Natural Resources (DNR), Juneau, Alaska, said this project is of utmost

importance to Alaska and he had been involved in it for over 10 years. Alaska is the most poorly mapped of all the states, he said. This project has a number of phases with the ultimate goal of creating a more accurate digital base map of Alaska. He introduced members of the team in the audience and related that in most recent years usually when they talk about federal agencies it's about head-butting and conflicts, especially with resource development projects, but this is one example of a project that has had "tremendous collaboration with federal agencies," outside of the USGS. Leading that charge is Kevin Gallagher, Associate Director for the USGS, and Tracy Fuller, the USGS Alaska Program lead.

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NICHOLAS MASTRODICASA, Large Project Manager, Alaska Department of Transportation and Public Facilities (DOTPF), Anchorage, Alaska, said they are not asking for anything; they are just here to report. He presented a picture from the National Elevation Dataset Source Information slide that illustrated why Alaska is the most poorly mapped state (in terms of elevation data) in the country; even Mexico is mapped better. In 2009, Mars was better-mapped than the State of Alaska.

He said the National Oceanic and Atmospheric Administration (NOAA) is mapping gravity in Alaska now and is about 78 percent done. They prioritized Alaska over the Lower 48, because of its comparatively poor mapping, and it is another example of a state/federal partnership that is really working well.

He said they are very grateful for the Capital Improvement Projects (CIP) appropriations some members had been involved in getting and wanted to show them what they got for it. Several federal partners contributed a total of \$33 million - the largest contributor being the USGS - and the state contributed \$13.3 million for the elevation component.

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MR. MASTRODICASA said this project began with the statewide digital mapping initiative (SDMI) that became the Alaska Geospatial Council in 2014. Its stated goal is to create a base map from satellite imagery of the elevation data. He showed a picture of new satellite imagery draped over old data that looked like "trying to put a banana peel over a cauliflower and make it fit seamlessly." In 2008, he said consensus was reached on what kind of technology would be used and now the new elevations are 77 percent complete.

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He pointed out "significant" inaccuracies in old data compared to new data and illustrated some on slide 12 with old Yukon Koyukuk legacy data overlaid with new data, called interferometric synthetic aperture radar (IfSAR). He noted a whole ridge line that was missing on the legacy data and remarked, "That is kind of a tough thing for aviation safety."

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MR. FOGELS explained that this new information has two fundamental layers: the satellite imagery that is 99 percent complete and the digital terrain model imagery, which is 77 percent complete. However, a third layer that is of critical importance to Alaska is called hydrography and is about all the water bodies: the creeks, the rivers, the streams, and the lakes. It is incredibly important to know where the wetlands and water bodies are for resource development. An old USGS topo map designates all of them with blue lines and because of the new data; those are now all going to be in the wrong place. So, someone has to go in and look at the imagery and fix it, a very manually-intensive task.

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MR. FOGELS said using IfSAR data they can do a couple of other things. The new digital elevation model being created for all of Alaska is going to be at about a five-year accuracy level, which is "infinitely better" than what exists now. Storm surge, avalanche and slope analyses can be done and topographic base maps can be created for tsunami inundation studies. To get really detailed different technologies need to be used like Light Detection and Ranging (LiDAR) data which can map topography in much greater detail, but it's prohibitively expensive to map the whole state with it. So, they have chosen something a little cheaper with the IfSAR technology. He said this data produces "these fantastic" new maps that are far more accurate than the 50 or 60-year old ones. Alaska is behind the curve, but now thankfully, it is being upgraded.

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SENATOR WIELECHOWSKI asked who uses these maps and what their general uses are by industry.

MR. FOGELS answered that a lot of people use them for recreation, hunting, and fishing. Prospectors use USGS maps as well as explorers looking for minerals and oil and gas. A lot of airline cockpits have a digital elevation model (DEM) piped in based on the old inaccurate elevation model, and once the new

data gets piped in, pilots making navigation in bad weather safer. His job is with the DNR and there isn't a single thing they do that doesn't involve a map somewhere.

SENATOR WIELECHOWSKI asked if these maps get sold and if the state gets any money back from them. Does the department sell some and keep others for statistical purposes?

MR. FOGELS answered that they hadn't figured it out, yet. The USGS sells its maps. The DNR produces its own maps and some get sold in the public information centers for a minimal fee. The goal is to get this data out to the public for consumption free of charge. If the private sector wants to take it and create nice shiny maps that they can sell at REI, so be it.

Huge amounts of data are being collected here, he emphasized, and they still haven't figured out how to store and distribute it properly, and revenue will be needed at some point to make it more coordinated and readily available. Right now they are just trying to keep the project alive and going.

SENATOR VON IMHOF said Alaska has many pilots that use the Garmin GPS regularly and asked if any of their data is ready to roll out now and if they contact people like Garmin so they can update their products as it comes out.

MR. MASTRODICASA replied that the Federal Aviation Administration (FAA) has to turn the data into aeronautical charts first, but they won't do that until the state is completely covered with IfSAR, which should be in a couple of years.

CHAIR GIESSEL recognized Department of Transportation and Public Facilities (DOTPF) Commissioner Marc Luiken in the audience.

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SENATOR HUGHES asked if this information will eventually make it to Google Maps.

MR. MASTRODICASA answered yes.

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MR. FOGELS said the data layers - imagery, hydrography and elevation - are referred to as framework datasets. But the department wants to put the cadastral pieces, actual surveyed governmental boundaries for all the communities, into a statewide base map, just to make sure that every single

transportation infrastructure is correctly rectified. Geodetic control is the layer that actually helps them position everything on the ground, and Alaska is very lacking in it now. He said the hydrography layer is only 15 percent done; some are a little further along. Some haven't even been started yet.

He said the department does a lot of other mapping, for instance the geology survey is out mapping the mineral potential and they need the base maps to put that information on top of. Right now they go out and map the geology on the old USGS topo maps.

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SENATOR STEDMAN said Alaska has a lot of submerged and tide lands and noted that bathymetric mapping is listed "unknown."

MR. FOGELS answered that bathymetry of mapping the terrain model underwater still needs to be done. Much of it was done maybe 100 years ago with chains and is very poorly understood in Alaska. They are working with the National Oceanic and Atmospheric Administration (NOAA) on that.

MR. MASTRODICASA added that NOAA did some of that work off of Kodiak last summer.

CHAIR GIESSEL asked how the base map will appear compared to the older maps.

MR. FOGELS replied that they envision a digital creation through a web-based portal into the mapping world where one can access all the framework datasets. The USGS is using it to produce maps that can be printed. Others might use it to do the same thing.

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SENATOR COGHILL said he was pleased with moving in this direction, because the tension between private and military use in his district. Having good delineated values will help for good game management, as well. He said because the state shares patchwork ownership and management with the federal government on a whole range of lands, Alaska probably has more face to face boundaries than any other place in the world and asked if this mapping will also help clearly delineate access points.

MR. FOGELS answered yes. The first step is to have an accurate base map and to have governmental boundaries precisely designated. The base maps will allow DNR, for example, to more precisely locate 17(b) easements and RS2477s. The idea is to have all of that more accessible to the public.

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MR. FOGELS wrapped up that this project was started under the name of the Statewide Digital Mapping Initiative that was reformed recently with Governor Walker signing the MOU that created the Alaska Geospatial Council. It consists of commissioners from six departments and three representatives from federal agencies, a representative from a Native corporation, a representative from the University, and a representative from local government. It is charged with really driving this project at the state level and providing input to the governor and eventually the legislature on where they need to go next. It collaborates with a group called the Alaska Mapping Executive Committee that was formed by the federal government. It was a very high level deputy secretary committee with the goal of coordinating their funding for mapping in Alaska. This has been a primary driver in Alaska getting federal dollars to help leverage the project. Mr. Gallagher is leading the charge on that.

CHAIR GIESSEL said clearly the mapping is impressive but she is also thankful that two departments are sitting at the table - DNR and the DOTPF together and collaborating, not working in silos, but working together to move a project like this forward. She noted the hard work that Mr. Mastrodicasa had done to leverage the federal funds.

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KEVIN GALLAGHER, Associate Director, Core Science Systems, United States Geological Survey (USGS), said he had two goals today: one was to give them a federal perspective and the other was to thank the legislature for assisting with funding from the state as a key partner in this project. He also thanked his DNR and DOTPF partners. His presentation was entitled "Past Successes and Future Prospects for Alaska Mapping," and the history really starts with the second director, John Wesley Powell (quoted earlier), who in many ways founded the topographic mapping program at USGS, which he didn't think would include Alaska, but Alaska was not a state then. Even though Alaska is a difficult place to map, USGS has wanted to map it for a very long time, and this opportunity came up to work with the state through the Alaska Statewide Digital Mapping Initiative.

He said that much of Alaska data from 50-60 years ago is very error-prone when the rest of the world had moved on with high-resolution mapping. A couple of key things happened: a study was

by the state that led to the decision to make elevation a priority and to use IfSAR technology. And secondly, the USGS did a second assessment in 2012 looking at a national elevation dataset. One of the important things it did was calculate a return on investment (ROI) and it showed an over \$19 million annual ROI to the SOA for enhanced elevation data.

MR. GALLAGHER said the Alaska delegation got together and signed a letter to the Office of Management and Budget in D.C. on the importance of Alaskan mapping in 2011, and it gave him the impetus to pull together a federal-based executive committee (mentioned earlier). In June 2012, they had an Alaska Mapping Round Table in Washington, D.C. that drew executives from some 20 federal agencies, interests from the government, and the private sector. The most important outcome of that was the creation of a Standing Executive Committee that has met at least twice annually ever since. Each time they looked at key metrics for status in mapping and that was a key feature in what drove the success of this project.

MR. GALLAGHER said the Interferometric Synthetic Aperture Radar (IfSAR) was chosen specifically because it penetrates clouds, which is one of the big challenges in Alaska other than its large size and extreme weather. Almost continuous cloud cover makes it very difficult to do remote sensing. IfSAR provides 5-meter horizontal spacing resolution data, which is in several orders of magnitude greater than what the state had previously.

Three important products come out of it: the digital terrain model (DTM) - imagine the bare earth with all of the forest removed and the lowest level of elevation. This is a critical piece of information when looking at topography. Elevation is a major control for things like water flow as well as many other aspects. Another important product is the digital surface model - the treetops. The two can be used in conjunction with each other to do things like calculate the volume of forests to anticipate things like fuel load for fire management. The last product is a radar intensity image (RII) that is a pseudo image and supports some of the other work they are doing like the development of the national hydrography dataset. These three key products work in conjunction to really update the maps.

There are many applications for this data from emergency response to aviation safety, minerals assessments, seismic risk analysis, landslide analysis, and terrain mapping. He pointed out that although people see it as an image it's just data.

He said the federal government has provided 71 percent of the funding in Alaska and over \$33 million in the last seven years. That has ramped up recently under the leadership of the Alaskan Mapping Executive Committee, which the Department of Interior chairs. This investment not only stimulates the economy of Alaska in the short term, but it is also creates a dataset that can be used in a post-analysis way to generate more revenue.

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MR. GALLAGHER said the state has collected 77 percent of the data and they will try to collect another 47,000 square miles in 2017 and maybe more if more federal funds come in. To capture the remaining 23 percent of Alaska is about a \$14 million challenge, but with all the partners it might be done in the next two to three years.

There are large challenges with the Aleutians, because of the extreme weather and long distances. Mostly you're paying fuel costs for the flights that collect the data. IfSAR will probably cost twice as much in that area. So, they are actually considering some alternative technologies like deriving data from satellite imagery.

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SENATOR COGHILL asked if they fly a grid and if that is why the Aleutians are so difficult.

MR. GALLAGHER answered yes. They call it "mowing the lawn." The Aleutians are a long 1,500 to 1,800 miles of flight time; operations are needed for refueling and ground control is needed to get the data accurate. These are all big cost drivers.

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SENATOR HUGHES asked if IfSAR equipment can be used on a drone.

MR. GALLAGHER answered that some instruments have been miniaturized for drones, but FAA policy for drones not flown by the U.S. military have a 55-pounds or less limitation. So, the challenge in the Aleutians is persistency, because at under 55 pounds you are limited to about an hour and a half of flight time in a typical high-end drone. So, you wouldn't be able to get much of the Aleutians with a drone today. He added that it is an interesting question because the whole geo-spatial community is looking at drones as a disruptive technology, in a good way, that in the next 5-10 years will probably mean driving the cost of data collection down and afford a lot more

opportunities. But at the moment the size of the drone limits the distance it can fly.

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SENATOR HUGHES remarked that drones is the fastest evolving technology, so his 5-10 years might be the 2-3 years they have been hearing about.

MR. GALLAGHER said USGS' second priority is to pick up a hydrography dataset for Alaska, which is about 15 percent complete at the moment. Hydrography is important for a whole other suite of applications from fishery management and water quality to flood mitigation, contaminant distribution, and hydrologic modeling.

He said a lot has been talked about with regards to topographic mapping and replacing decades-old maps, and the USGS distributes these maps as a geo-PDF today, so they are downloadable to a mobile platform or other devices. They can be integrated with GPS; your walks can be tracked, and that brings in all the applications that the private sector might develop. USGS sells about \$2.5 million worth of paper maps per year. They are sold very cheaply at about \$7-8 per map, the purpose being to just cover the cost of printing. They used to see about \$12 million but it seems to have leveled off at \$2.5 million. So, there still is a market for disconnected users. The steady converting to digital distribution is being well-accepted in most communities.

MR. GALLAGHER said 11,275 maps need to be produced that would cover the whole state of Alaska at a scale of 1:25,000. They have already produced 3,731, and this year production is being ramped up to 3,038. The topographic maps should cover 60 percent of the state then. He said they remain committed to this project and will see it through. He had a lot of thanks and praise for all the federal and state agencies involved.

CHAIR GIESSEL remarked that it's great to have such a positive relationship with the federal government on this issue and noted that Senator Stedman and Senator Meyer had some responsibility for funding this project in years past as they led the Finance Committee.

#### **SB 6-INDUSTRIAL HEMP PRODUCTION**

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CHAIR GIESSEL announced consideration of SB 6, sponsored by Senator Hughes. It proposes to introduce industrial hemp back into Alaska as an agricultural product allowing it to be developed into value-added products.

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SENATOR HUGHES, sponsor of SB 6, Alaska State Legislature, Juneau, Alaska, said her district includes quite a bit of agricultural land. So, last spring former Senator Ellis had a bill on this topic. She got a call from a highly respected farmer in her area and former Borough Mayor Larry DeVilbiss expressing interest in taking hemp out of the criminal statutes and putting it into the agricultural statutes. During the course of summer and fall in town halls and other forums, she heard various folks express interest in that, as well, and heard from other farmers and innovative thinkers around the state.

The federal Farm Act was signed in August and guidelines are being rolled out now. Today she is presenting the initial version and as more is learned about the federal guidelines, it will get updated.

SENATOR HUGHES said this is one more economic opportunity for farmers and Alaskans. Interestingly, hemp was legally grown up until 1937 in our state. It has 25,000 industrial applications. Centuries ago it was used for canvas for ship sails and covered wagons, and it was used for the paper on which the Declaration of Independence was written.

Federal law has changed and a number of states have also changed their laws to allow its growth. Europe was a little bit ahead of us and prints bibles on hemp paper, because it doesn't yellow. It's a good option for biofuels and construction materials. In fact, a gentleman in Homer is building a model home using multiple hemp products for drywall, insulation, and plywood. Farmers are interested in it as a great feedstock for animals.

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BUDDY WHITT, staff to Senator Hughes, Alaska State Legislature, Juneau, Alaska, provided an overview of SB 6. He explained that the bill has three sections in its present form. The first section under Title 11 adds a paragraph that defines industrial hemp that matches the federal definition, which is: "All parts and varieties of the plant, *cannabis sativa* L, containing no

more than .3 percent THC." Federal studies have shown that 1 percent THC is the threshold for it to actually be present enough to cause hallucinogenic side effects. The .3 percent threshold, well below that, is what the federal government used as a definition for industrial hemp, therefore separating it completely from the drug, marijuana.

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Section 2 was added so that under Title 11 it would be an affirmative defense to keep one from being prosecuted under Title 11, Sec. 71.33.060 (If you had industrial hemp and you were caught and charged with manufacturing, delivering, or possessing with intent to manufacture or deliver.)

Finally section 3 states that an individual manufacturing, delivering or displaying industrial hemp is not required to register.

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MR. WHITT said he would next cover what needs to be changed in state statute in order to match the federal statutes. The federal Farm Act of 2014, the Omnibus Appropriations Act of 2016, and the U.S.D.A Statement of Principles relating to the Farm Act of 2014, which was enacted August 12, 2016 are the main federal pieces that are referred to in looking at the changes needed in this bill. They say basically that states may participate in an industrial hemp pilot program that is designed to study the growth, cultivation, and marketing of industrial hemp within their state.

The state department responsible for agriculture is the one that is responsible for oversight and regulatory authority over industrial hemp. Registration is required by the Division of Agriculture in Alaska's case and is recommended to include but not limited to: the name of the authorized manufacturer, the period of the license/registration that is being given, and the GPS coordinates for the "grow" for identification by a DPS officer flying over it, which avoids misidentification of hemp as marijuana from the air.

The act also defines industrial hemp and it allows those who are authorized under an industrial hemp pilot program, institutions of higher education, or those who are employed under contract through an institution of higher education to grow and cultivate industrial hemp. Section 3 of the bill says that registration is not required and would not meet the federal guidelines.

CHAIR GIESSEL said she will work with Senator Hughes to craft a committee substitute for SB 6.

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SENATOR HUGHES commented that it has been a delight to work with the Division of Agriculture Director, Arthur Keyes, and Rob Carter at the Plant Materials Center on this issue.

SENATOR COGHILL said some of the questions he will be asking along the way are because of what has been done with legalizing marijuana in Alaska, and asked if SB 6 will have a fire wall between the growing of industrial hemp and marijuana because one has federal rules that are permissive and the other one has federal rules that forbid such actions. He also asked what amounts would be tested: batches or individual plants, and remarked that the testing could be expensive if it isn't done right.

SENATOR HUGHES said his second question was a good one for the Division of Agriculture experts, and because SB 6 is going to the Judiciary Committee, that would be a great place to look at his other concern about posing as a hemp grower but actually growing marijuana. However, her understanding is that it would then fall under the criminal statutes as not being licensed. The mapping coordinates will also provide a check.

ARTHUR KEYES, Director, Division of Agriculture, Department of Natural Resources (DNR), Anchorage, Alaska, responded that Rob Carter has some good information on this issue.

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ROB CARTER, Manager, Alaska Plant Materials Center, Division of Agriculture, Department of Natural Resources (DNR), Anchorage, Alaska, responded that truly testing to differentiate between industrial hemp and recreational marijuana would require an expensive machine, but luckily the commercial laboratories that are now in place for the recreational marijuana industry could very easily do the test for a nominal fee. But fronting industrial hemp as recreational marijuana would be difficult when you actually come down to the agronomic principles and practices of growing each. The planting densities are much different; industrial hemp is planted very similar to grain with a grain drill, and the seed and row spacing are more similar to corn. This would be very unproductive in the recreational cannabis world.

Physiologically, the recreational marijuana growers are very specific in growing strains that are high in THC, and those are specifically females. On the industrial hemp side for seed production you want both females and males. So, anyone who tried to grow industrial hemp as a ruse for recreational marijuana would end up with some pretty poor product. He just didn't think it would be attempted.

SENATOR COGHILL said last year he heard that the growing season for industrial hemp could actually suit Alaska very well and asked if that is true.

MR. CARTER answered that since the real research on the production of hemp stopped between 1932 and 1937, he didn't have a lot of agronomic practices that bind non-production of industrial hemp in Alaska. That is why the division believes it is so important to give this crop an opportunity. Looking at Alaska's dramatic day lengths and photo periods, this plant should produce very well on a biomass basis. There are questions involving the production of seed and the photo period required by that genus and species, but that won't be known until it has been trialed. However, they expect great results for the production of fiber and plant products and the thousands of other uses.

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SENATOR VON IMHOF said the plants look alike but they are chemically different and one of the letters says they are different in terms of stalks versus flower seeds, and asked if that is another difference.

MR. CARTER answered yes. He explained that a lot of that is very dependent on the plant density within the acreage that it's planted. The tighter plants are planted together the more upright they grow; they are phototropic so they try to grow toward the sun. He said the recreational marijuana plants planted outside in California are probably planted on six-foot centers and six to ten feet between each row, where a hemp field is going to look more like corn or an extremely tall cereal grain.

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CHAIR GIESSEL opened public testimony on SB 6.

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FRANK TURNEY, representing himself, Hempsters, Fairbanks Alaska, supported SB 6. He said their files should include copies of the

first and second resolutions passed in Fairbanks in support of industrial hemp along with other related letters of support. Creating a hemp industry would boost the economy and create jobs. He mentioned meeting Jack Bennett at the Fairbanks Energy Conference who started building a hemp house with mud in Homer. "Nobody that I know is going to smoke industrial hemp. They would be coughing themselves and choking, believe me," he said.

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JOHN BRADING, representing himself, Fairbanks Alaska, supported SB 6. He said on November 14, 2011, Fairbanks Councilman Hilling introduced Resolution 4497 urging the Alaska State Legislature and executive branch to make expressly legal the cultivation of industrial hemp in the State of Alaska. A second supporting resolution was introduced in February 2, 2012.

MR. BRADING said hemp and marijuana are essentially different varieties of the same plant. Hemp is used when the plant is grown cane-like for its fiber, seed, oil, and herbs. Industrial hemp's THC content is too low to produce a high. Today hemp is used for thousands of different products ranging from textiles, paper, building materials, food products, and cosmetics.

He said hemp is popular because it can be grown easily without harmful pesticides and fertilizers; its deep root system prevents soil erosion and retains soil fertility making it an ideal rotation crop. Hemp fiber is one of the strongest and most insulating and absorbent of all natural-occurring fibers. It is used in the oil industry to absorb oil spills. Hemp produces more pulp paper than timber on a sustainable basis and can be used for every quality of paper. Hemp seeds are high in protein and contain a polyunsaturated oil, which is rich in the essential fatty acids.

CHAIR GIESSEL asked him to wrap up and to email the rest of his comments to her office and she would distribute it to committee members.

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EMBER HAYNES, representing herself, Denali Hemp Company, Talkeetna, Alaska, supported SB 6. She and her husband have been creating balms and lotions using hemp seed oil for about 10 years and have seen a change in the views of their customers over the years. Alaska is prime right now; everyone is looking for healthy alternatives. They are excited to have this opportunity for Alaskans to be able to grow hemp. They would love to feed hemp leaves to their livestock.

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BRUCE SHULTE, representing himself, Anchorage Alaska, supported SB 6. He spends much of the summer flying over the MatSu Valley and sees a lot of fallow land and making it more productive would be fantastic.

He said Section 2's affirmative defense in the event of prosecution harkens back to an earlier version of another type of legislation a few years ago, and while the intent is noble, his concern is that a farmer growing hemp could be raided, have their crops destroyed, and their material seized and go a long way down the road and stand a lot of legal fees before they would be able to take advantage of an affirmative defense. So, in rewriting this bill, he asked them to consider removing hemp entirely from the list of classified materials to avoid that particular legal stumbling block.

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MICHAEL DRUCE, Owner, Summer Peonies, Sterling, Alaska, supported SB 6. He said that growing peonies is a labor of love, require a large upfront investment, are labor intensive and take several years before a profit is realized. On that note he is looking for another way to profit from the land he has, but he also believes our state must support new industries aggressively.

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JACK BENNETT, representing himself, Homer, Alaska, supported SB 6. He is building a model home made with industrial hemp insulation material that is made in just a handful of shops in the United States. As a construction material, just one product replaces formaldehyde-based OSB plywood, sheetrock, fiberglass insulation, and house-wrap. It will lower heating costs by 70 percent, and the life cycle of these homes is hundreds of years. He said data indicates that two and a half weeks in a 100-day harvest produces enough of the woody core construction material to build a 1,000-square foot shell in 8 days depending on how many laborers worked on it. He presented a model home at the World Energy Conference in Fairbanks and wants to do a pilot home in rural Alaska that has a 6,000-home shortage.

MR. BENNETT said this may not be the solution for affordable housing, but it is a solution. He represents a commercial manufacturer that owns North America's largest piece of machinery called a decorticator that separates the industrial hemp fiber from the woody core. The fiber sold out to an

automotive partner. He said the State of Indiana is working on a facility to design and manufacture automobiles with hemp plastics, both interior and exterior. They are a formaldehyde-replacement to carbon fiber. At the end of the car's lifecycle the ingredients are 100 percent biodegradable. He had presented it to petroleum companies as an oil spill cleanup method that is five times more absorbent than polypropylene technology.

CHAIR GIESSEL held public testimony on SB 6 open and invited everyone to submit their testimony in writing.

[SB 6 was held in committee.]

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CHAIR GIESSEL adjourned the Senate Resources Committee meeting at 4:50 p.m.