

**Mariculture Regulation Review Committee
Minutes for 1/29/04 teleconference**

Attending: David Bedford, Richie Davis, Julie Decker, Kathy Hansen, Bob Hartley, Jeff Hetrick, Kyle Hebert, Steve LaCroix, Ron Long, Steve McGee, Dan Moore, Sid Morgan, Roger Painter, David Petree, Ray RaLonde, Jim Seeb, Paula Terrel, Jackie Timothy, Kerri Tonkin.

David Bedford opened the meeting at 9:10 a.m., noting they would be reviewing a number of suggested changes from the Alaska Shellfish Growers Association (ASGA) as well as related ADF&G responses. He said it was an interactive process; that they wanted ideas from the public and they wanted to establish a dialogue, adding there is a distinct process for developing regulations. Bedford said they would take a look at the changes so far and discuss the various rationales, etc., and hopefully would address additional comments from the participants, noting that they may or may not be having further teleconferences. He said they would be relying on help from the public for ideas to meet the department's obligations under the statutes—that they needed to interpret the regulations using the statutory provisions as a guide—that it wasn't an option for them to simply reiterate the statutory language; rather, they needed to interpret the statute with the regulation. He said he wanted to provide for a good working environment for the shellfish mariculture industry and insure other uses of the shellfish resources are accommodated.

Roger Painter said he wanted to respond to Bedford's introductory comments; he said they needed to review the suggested changes in the regulations and determine exactly what the department's needs are. He said when ASGA had reviewed 5AAC 41.240 they had seen a lot of things they felt inappropriate and other things they thought were too restrictive. They had looked back at the enabling statutes as to what to bring into the regulation. He said they felt comfortable with just the statute. In terms of 5AAC 41.240 (B)(5), they didn't see what was in there that addressed technical feasibility. Bedford said the regulations were intended to define statutory requirements, because the statutory language stated merely to demonstrate technical feasibility; so the language in the regulations is intended to help define how to accomplish that so that the department can achieve consistency and make consistent decisions. Therefore, they need to establish and use some kind of criteria as guidelines to achieve consistency by using the same type of rationale for every proposed project.

Painter said the whole issue about “weather” in 5AAC 41.240(b)(2) was not something on which to base the suitability of a site. He noted there were many onshore operations on the east coast that were covered in ice that required corresponding measures to deal effectively with adverse weather conditions. It was wrong to determine a site as unsuitable under existing regulations because the industry could find an innovative way of overcoming existing obstacles. Bedford admitted that the department understood there was some dissatisfaction with how they had been doing things. Ray RaLonde said there were a couple of ways to overcome these types of problems. He said the State of Florida grew their industry by developing partnerships and creating “best management practices templates.” These templates were pre-approved conditions that could be incorporated into a farm application to expedite the permitting process. He said some farms were much easier to permit than others, and these templates offered a way to streamline the process. RaLonde said the best management practices were pre-approved by the industry, university, and the state to facilitate the application approval process. When something like that was in place, then the permitting agencies had only to deal with those details of a proposed farm that fell outside the pre-approved parameters.

Painter said they didn’t start this whole process because they were unhappy with the department; rather, they started it to bring the regulations more into alignment with how the program actually works. He said that Jackie Timothy had done a “remarkable job” in making the process work within the existing regulations. He said that what concerned them, for example, was under 5 AAC 41.240 (b)(3)(A) they were dealing with indigenous species. He said no one had successfully farmed rock scallops, and they couldn’t yet demonstrate that they could farm them successfully, but if any of the department’s managers had a negative attitude about shellfish farming, then they had a lot of broadly interpreted regulations to throw at the industry to prevent their operations. He said that represented one more of their concerns about the way 5 AAC 41.240 was constructed now. He said it had been a problem in the past, and they wanted those types of issues resolved. He said (1) they were trying to provide more flexibility to the department and to the industry and (2) the existing regulations were too restrictive.

Bedford said the next step would be to look at the regulation and then rewrite them, although they had to have some specificity and restrictions in them. Ron Long said there was too much ambiguity in the existing regulations. He said their hope was to reduce that ambiguity and try to

find a level of consistency. He said they didn't want regulations that prevented creativity and innovation on the part of the industry. Bedford agreed that they needed to provide the opportunity for finding new ways of farming better. Painter said he was encouraged by what RaLonde had suggested in terms of incorporating the best management practices, although he would not put them into regulation but rather include them in a separate process. Timothy asked what the link was between the regulations and existing PCSGA and ASGA codes of practice. Painter said they were different things and he wouldn't want to see the codes of practice used as a management strategy, but rather have it applied to culture techniques. RaLonde said that was the intent of the best management practices: i.e., how does one specifically apply a management practice to comply with farming techniques—the concept serves more than one purpose.

Bedford noted that if they made references to a “form” in the regulations then it would carry the weight of the regulation, and that a form might offer more latitude. Kerri Tonkin asked if the Florida state legislature incorporated the best management practices into a statute. RaLonde said they did through the auspices of the state department of agriculture. Tonkin said they could download those and take a look. Painter noted that not having those in the regulations would make it less costly to that state to manage mariculture programs.

Painter said he had some suggested changes regarding (1) amendment (5AAC 41.255), stock acquisition permit (5AAC 41.290), transfer permits (5AAC 41.295), and definitions (5AAC 41.400). He said they had suggested changes to bring 5 AAC 41.255 into compliance with the statutes in terms of the types of culture systems employed. He said farmers should be allowed to set out densities, amount of gear, etc. they considered necessary, and they needed the flexibility to do that. He also said that if farmers were not really changing the original intent, they shouldn't be required to work through the amendments. Timothy said ADF&G treats them as business decisions; however, the Department of Natural Resources (DNR) required them; she added that maybe they could simply reference latitude in the operation and development plan in this situation. Painter said he questioned why ADF&G needed to be involved in the number of gear or amount of rafts in use, adding it was much better to go with a single agency review. Timothy said the ADF&G operation and development plan form was very simple; that all farmers had to do was describe what they were going to do and provide a timeline, noting the form had been simplified to ask only the necessary questions in the regulations. Painter said he

still thought it was a DNR function—not one to be undertaken by ADF&G. Timothy said they wanted ADF&G permits to compliment DNR's, noting they didn't specify number or type of gear employed. She said ADF&G wanted to give farmers the latitude they needed to increase productivity, noting there was plenty of room for discussion. Painter said that most of the suggested changes, other than 5 AAC 41.255(c)(2) when production levels were eliminated, were very simple, and they had little objection to those regulations as written. He said their concern in the past had been the multi-agency review and the resulting time-consuming process they experienced.

Painter said regarding 5AAC 41.290, the suggested changes focused on getting that section back to the original intent of the statute. He said it had been designed to bring wildstock in from outside the boundaries of the farm, and they wanted to make that clear in this process. He said the whole issue of 5AAC 41.290 (a)(7) is what an aquatic farm is designed to do comes into play. He said current regulations locked farmers into only increasing biomass through future culture and propagation and that was not the only purpose of mariculture. For example, he said there had been farmers who had gathered wild mussels, hung them out for three weeks at their farm site, and then marketed them—and although they didn't grow them out, they increased their value, not biomass. He said they had removed the language that prevented them from doing that by adding “value” to the regulation. He added that they were conducting small-scaled business operations, and they didn't want to write PhD theses on the productivity of an area. He said they were not able to show background productivity on what the net productivity is from the farm.

In terms of 5AAC 41.290(f) he said the existing language did not comply with Judge Thompson's decision. He said if farmers were considering accessing wild stock outside their farms then it would make sense. Jackie asked that if it was changed to reflect “off the farm” would they have a problem with it. Painter said “only the first sentence.” He said if there was an abundance of wild stock, then he didn't understand why a farmer would have to go to the hatchery to get their seed stock if, as an alternative, they had access to those abundant wild stocks that were healthy and not at risk. Long asked Painter if he wanted to go off the farm site to get wild stock to use on the farm site as seed stock from extremely dense, healthy wild stocks, and Painter said yes. Richie Davis said that the regulation would have to specify what species would apply—and certainly not geoducks. Painter said that if they were dealing with a limited

entry fishery, farmers would be precluded from accessing those stocks. Davis said he would also have to go back to the other section of the regulations that addresses other uses of shellfish; e.g., AS16.40.120.

Julie Decker asked that because of the way stock acquisition reports were written did it mean that any species on the site is the property of the farmer? Painter said that ADF&G had proposed an amendment to deal with standing stocks on a site. Decker said that a farmer couldn't take any species there—it had to be one approved for culture. Bedford said that in the permitting process, if a farmer had another species setting on his gear, he'd be allowed to get an amendment to culture that species; i.e., an amendment to 5AAC 41.245 will be effective February 13. Tonkin said they could always define wild stock with some specificity to address Painter's concerns; e.g., littlenecks, geoducks, etc. Painter said that wild stock was defined already. Davis said he wanted to be confident there would be no conflict with species targeted in the dive fisheries. Painter reiterated that farmers would be precluded by existing statutes and regulations, and they would only be able to use wild stocks that weren't being fully utilized. Decker said it would be a commissioner's decision and they were satisfied with that. Kathy Hansen said in terms of 5AAC 41.290(f) she didn't think it unrealistic for the commissioner to look at things on a case-by-case basis. She said she could envision a scenario where everyone would be trying to find wild stock and not use the seed stock from the hatchery, thereby causing the hatchery to fail from lack of economic support from farmers.

Painter said the statute was specifically designed to allow operators to utilize underutilized wild stocks to increase the value of those animals—not grow them. He said the language was currently in the regulations but not in the statute. He said the whole purpose of this process that they were engaged in was to carry out the intention of the statutes, and the issue of hatchery production was not in alignment with it. Long said the reason the statutes didn't address it was because no hatcheries were operational at the time they were written. Painter said that their concern here was to address the existing statutes—and in them there was no prohibition to access wild stock by reason that seed was available from the hatchery.

Bedford said the dialogue was raising some policy questions; he said his first inclination was for farmers to acquire their stock from a hatchery. He asked participants what they thought about

farmers going in there and increasing value on wild stocks if there were resources out there that had no commercial use. Decker said, because it was an economic opportunity, why not allow it. Davis said diver's concerns are for those species that are used commercially, and their position is to protect those people that are heavily invested in the commercial dive fisheries. If there is a species not involved in a commercial fishery then they had no objection. Hansen said she thought that those wild stocks should be open to everyone, not just the divers. Bedford asked if there would be objections to farmers taking stock out of an area where there was no commercial fishery. Hansen said she viewed this issue as sharing not exclusionary. She said she envisioned farmers not farming but instead going out and locating these underutilized wild stocks and then growing them out for market. She said she didn't want to see that practice become exclusionary. Decker said with green sea urchins, for example, you would not just be harvesting them, you would be growing them out to a harvestable size and that was an important distinction. Long said that they were still a common-property resource; he noted that Painter's example of taking mussels from a site, hanging them out for a few weeks, and then marketing them was a legitimate undertaking because it added value, but not necessarily weight.

Painter said they needed to look beyond the boundaries of Alaska to see what are considered aquaculture activities elsewhere; e.g., in Chesapeake Bay most oysters originated from operations that drag for them before placing them on a farm to increase their value. He said looking at shellfish from the perspective of value and biomass, a facility would need to hold them for some time, and in order to have a facility you needed an aquaculture permit. Bedford noted a policy question underlies what they were discussing here.

In terms of 5AAC 41.295, Long said that (g) was the only section they'd changed, and the rationale was to clean it up a bit and make it more specific, noting that "risk" was a prohibition. Painter said that "risk" also implied a broad spectrum of scenarios, whereas, "alter" was more specific. He said all kinds of concerns would be raised if they used "risk." He said the actual risk would be "extraordinarily small." Long said that defining an acceptable level of risk would be difficult if not impossible to do. Bedford said the change shifted the burden to the department to assess genetic alterations. He said there was some level of acceptable risk, and risk analyses was something the department does; however, genetics is one of the important things they were dealing with here—and this matter should be placed before Jim Seeb (principle geneticist) and

the genetics subgroup for their evaluation. RaLonde said that one of the problems with the subgroup was that they were not being useful. He said there was little research in the issue and they were still in the stage of trying to figure it out; i.e., alteration of genetics.

Painter said that most of the suggested changes in 5AAC 41.400 addressed the essence of aquaculture. He said they added a definition for biomass, and under culture methods they had tried to import the concept of value as well as the definitions of techniques in use. He said they had also deleted “demonstrate” under (8) and Department of Governmental Coordination under (9). He said for (10) existing uses of fish and wildlife resources, they had taken out public testimony because it “had not value or truthfulness.” Long said that the public did not always provide accurate or verifiable information. Tonkin noted that under the Alaska Administrative Code, they couldn’t eliminate public comment. Painter said that he had conducted clam and sea urchin population surveys with the public and then had gone to areas they’d been told had high densities to find that the public information was unreliable and inconsistent.

Painter said that under (13) natural range of species, it was impossible to determine. For example rock scallops in Kachemak Bay; no one can specifically locate those stocks because they have reproductively variable populations and to find those populations in order to substantiate sustainability is absurd. Long suggested instead it could be useful to incorporate “birder identifying language” to determine population levels. He said juvenile shellfish species were subject to larval drift and they therefore couldn’t establish whether they were reproductively viable, although their presence would indicate they were probably within the range of their species. Painter said the marine environment was always changing and that had a profound effect where any one species existed at any one time. He said, for example, in the 1970s there was a huge pink shrimp fishery in the Gulf of Alaska—it’s not longer there. The same applied to other species such as sea urchin populations being decimated by sea otters—the marine environment is not static and to show that these species are reproductively viable is impossible.

RaLonde said it was problematic. If they were dealing with a species that was sedentary and reproducing then they could determine its reproductive viability, but they couldn’t document that for shellfish because there was no way to determine where the progeny were—they may be

hundreds of miles away. He said if a substrate is provided for seed then a place is provided for the progeny to grow out, but then part of the problem would remain that shellfish are also habitat limited. He said viable populations and the range are the issues. He said as an alternative it would be reasonable to look at drift patterns for shellfish organisms, noting there were obvious pattern. RaLonde said there were habitat barriers as well as marine currents that prevented shellfish from Southeast drifting into Prince William Sound, for example. He reiterated that what constituted a viable population was an extremely difficult issue and instead they needed to determine a reasonable area of drift for a given population. Painter said in terms of (17) seed stock, sometimes farmers would sell oysters before they'd reached marketable size.

Painter said when they were discussing significance under 5AAC 41.240 Review and determination, they were addressing two concepts: (1) a different definition for geoducks and (2) the framework for dealing with other species. He said in terms of (b)(1)(F)(ii) they were concerned about dealing with standing stocks for noncommercial species; e.g., little neck clams. He said of all the commercial fisheries for clams the only participants have been farmers. Timothy said no, they had one non-farming person who participated in a little neck clam commercial fishery, but although he had fished he had no place to hang and purge his clams, noting that clams had to be purged in classified water. He said this particular one-time, non-farmer commercial fishermen had a huge problem that no one had anticipated. She also noted that in Kachemak Bay they hold commercial fisheries for clams.

Bedford rhetorically asked how do participants get from Judge Thompson's opinion to dealing with species other than geoducks and how do they balance providing farming opportunities with the public interest in these resources. He suggested they needed to define that public interest, noting that if there were other ideas he'd like to hear them. Long asked if they needed a series of hearings to determine public use. Timothy said they've previously gotten that information from the Subsistence Division. She said the problem is sometimes the information has been incorrectly interpreted as to biomass, and it was very difficult to get this type of personal-use information. Painter said they merely had to be in compliance with the statutes; i.e., existing uses for sustained yield management. Timothy said that if they determined no public interest in a site, how would Painter respond to the claim a farmer was getting exclusive use of a public resource. Painter said he would refer them to the "constitution and the statutes." He said on a

practical level the public had not indicated any interest before, there was no targeted commercial fishery by them, and farmers could gear-up because they had all the necessary permits. Timothy noted that a farmer needed six or seven permits. Painter reiterated that from a practical perspective, hardly anyone from the public engages in these activities because of the overwhelming number of permits involved, and if anyone thinks they need to have a commercial fishery, then only farmers would show up—“so what’s the point.” Decker said in 5 AAC 41.240(3)(b) ASGA proposed they take out “in areas where” and replace it with “for which.”

Painter said there was a commercial shellfish fishery in Kachemak Bay and no one from there was going to come down to Southeast to fish for 400-500 pounds of clams; e.g., Point Baker, there are a few clams there, but no one but a few local residents would be interested in commercially harvesting there because it was so far away. Timothy said they had made an effort to get the public involved and no one from Point Baker objected to a farm there. Long said it would be a different matter on the road system, and they might do well to take a lesson from Europeans—to make certain they supported good common-sense requirements to validate their determinations—it was only good public policy. Timothy said there had been a farm proposal on a road system and the public responded that it was a public beach for accessing shellfish for their personal use, when in fact, the farm had not been proposed on the public use area. On the proposed farm site, ADF&G staff found only two clams after an hour of digging.

RaLonde said that at a 1996 on-bottom farming conference they discussed there had only been a modest commercial fishery in Southeast. After 1996, the fishery was shut down. It was a difficult fishery to manage and stocks were considered nonviable because of the manner in which they were distributed. The whole idea of water quality testing and PSP certification was simply unfeasible and economically not possible for most shellfish species; however, it was possible for geoducks because of their much greater value. Timothy said they needed to think about the fact that farmers are required to pay for their leases and for water quality testing while ADF&G holds a commercial clam fishery.

LaCroix said that geoducks were not well defined for public use, noting it was an evolving standard because perceptions of what was economically viable were changing and quotas were being reevaluated. He said there was a statutory concept of existing use, yet that use in reality is

changing, and they were trying to reach a compromise or a balance between the extremes; i.e., they wanted clearer definitions of significance.

Painter said he objected to the department's concept of a 10-mile geographic buffer around a commercial fishery and that the strategic placement of buffer zones in Southeast could preclude farming everywhere. He said there needs to be a limit as to how close you could put a commercial fishery to an existing farm. He said his biggest problem was with the term "density" and its interpretation. He said they wanted to apply numbers to the term to decrease subjectivity—they needed a numerical standard. Painter said they propose to limit it to an abundance level; however, that standard is also changing as illustrated by the changing of quotas in different areas as management modeling is improved. He said he thought the standard would get smaller and smaller over time. Furthermore, when the department determined quotas in the commercial fishery they first determined the biomass, and when they did that they included geoducks that were not available to the commercial fishery because they were too deep. Concerning the 10-mile buffer, he said the distances were arbitrary and there was no biological justification for determining them. He said he didn't understand the purpose or the rationale behind them, other than to remove further areas open to shellfish farming. He said the buffers needed to be within in a reasonable range to the fishery, and 10 miles was too long. He said he recommended a more reasonable distance of one mile.

Bedford said the rationale for that distance was guided by the densities, and the department needed to look at areas that would sustain a commercial fishery. He said both distance and densities were practical definitions that had nothing to do with precluding farming. He said they could debate distance; the department had been looking at the greatest distance where a commercial fishery was prosecuted and that was Craig with a buffer of 13 miles. The department had considered the lesser buffer of 10 miles as practical, but they could argue about that distance. LaCroix said he thought that the rationale behind objections to the 10-mile limit was because applications were being denied as opposed to good public policy; he said they needed to move away from the conflict and get a solution to the problem.

Painter said Craig and Sitka Sound were two areas where the 10-mile buffer might be applicable for geoducks because the stocks were not concentrated like they were in most other areas in

Southeast. However, by using the 10-mile limit in other areas, the department was excluding areas from farming that would never support a commercial fishery. He said he wanted to insure that areas five miles away from a commercial fishery would not be precluded from farming; he said his organization maintained that the 10-mile standard is arbitrary and capricious and the statute is talking about existing uses, not future uses of the fishery. Bedford said that Judge Thompson didn't want the department to protect a speculative fishery—he wanted to protect existing uses. He said that they needed to look at the proposed regulation as to where you can site a farm and where you cannot site one. Kyle Hebert said the 10-mile zone did not preclude farming, and Bedford said it was not an exclusionary zone.

Hebert discussed a hypothetical commercial fishery and the zone outside the fishery that was where density thresholds come into play. He noted that geoducks at greater than $0.4/m^2$ or having a cumulative overall weight of 25,000 lb per site/fisher would be considered a significant biomass. He said that when department staff survey for a commercial fishery or farm site, they look at parcel of shoreline where there exists patches of geoduck abundance. They measure out a series of transects and then count geoducks on each transect. He said they were trying to get an estimate with a 90% confidence interval to indicate the accuracy of the estimate, noting the fewer transects present the lower the precision of the estimate and the wider the confidence interval becomes. He said for commercial fishery surveys, the objective is to get within 70% of the mean or point estimate. Decker asked if a survey for a farm site would have to fall into a precision of the same 70% that they use for commercial fishery, and was the department using sufficient numbers of transects per site to get the precision they needed? Hebert said that it was their goal for the commercial fishery surveys, and if they didn't get 70%, they'd add more transects, and if precision was low their biomass estimates would automatically become more conservative because the estimate is based on the lower bound of the confidence interval.

Decker said her concern was that the department was not getting accurate surveys, and Hebert said that to provide precise estimates was a reason for establishing precision standards. Decker said that if 25,000 lbs indicated significance, based on the lower bound of a confidence interval, with 70% precision that would mean there could actually be 32,000 lbs; she asked Hebert whether he was then 90% confident that the biomass is greater than 25,000 lbs. Hebert said that Decker was saying they could create a “two-tailed test” to show an upper bound as well as a

lower bound; however, the department did not normally calculate that statistic for the commercial fishery because to prevent over harvest they wanted a conservative measure built-in to account for uncertainty in the estimates. Decker said that if that were the case, then the estimates were “hyper-conservative.” Painter asked that if the department was surveying a small site then they could do the number of transects they needed to get their confidence interval. Hebert said they could provided they had an even distribution of geoduck densities—that was where they got their best precision. Painter reiterated that an increase in transects equaled an increase in precision. Decker said that was exactly what the dive fisheries people were trying to get the department to do; however, the department was limited by its funding. Bedford said that the department has only “so much resources” to put into geoduck surveys. Timothy said they were going to need help for this, noting that SARDFSA was taxed in order to help the department conduct these surveys. A general discussion occurred on various methods and means of paying for the surveys.

Decker said that if a survey indicated densities too high to locate a farm at that site, then there would be no mechanism to get funding for that survey. Long said that it could become a commercial fishery site. Hebert said that geoduck fishery was still developing in terms of how they set up harvest rate rotation schedules to provide revenue to continue management functions, noting that an annual harvest rate of 2% is in regulation and most of the commercial fisheries were currently based on 4% harvest/2-years. He said the higher the harvest rate, the less frequent you have a fishery. He said the department would like to explore greater percentages with less frequent fisheries because of concerns regarding likely higher mortality rate of newly recruited geoducks that don't have a chance to burrow deep before getting incidentally extracted during frequent fisheries. He said they had never considered the 4% as a status quo measurement; it was the percentage they used when the fishery was first developing to provide a stable annual quota among fishery management areas, while new areas were starting to come online. In summarizing the density issue, Hebert said that for the commercial fishery surveys they used shoreline transects in most instances, but for some areas where identifiable linear shoreline was not easy to define, instead of transects they had a modified method where they estimated true densities per m² by counting geoducks within a 1-meter square quadrat and then applying it to the entire measured area. This method is done in several areas including Ulitka Bay and Little Steamboat Bay. The fact that this method is used to determine abundance means there is some

consistency with comparing a true density (gd per m²) between measurements on a proposed mariculture site and those for areas for where commercial fisheries are held.

RaLonde said one of the real issues underlying the 10-mile buffer zone concept is PSP certification. He said that farming close to an existing fishery where the farmer is constantly monitoring for PSP would be a distinct advantage to the commercial fishery. Painter said he had a few questions regarding department language usage: “recovering geoduck fishery” and “depleted area.” He asked Hebert to clarify their definitions. Hebert said “recovering” was not defined in regulation, but if a population falls below 30% of its original biomass (which is in regulation for commercial fishery) that is considered necessary for successful spawning and recruitment, it is considered in recovery mode and the fishery is closed. He said he associated the term “depleted” with a much lower level of biomass—an area completely overfished or an area where geoducks are gone. Hebert noted that two commercial fishery areas on West Gravina Island are closed and in recovery but still have a large abundance of geoducks (i.e., about 150,000 lbs each), which is much higher than some other smaller commercial fishery areas that are still open. Those areas would not be considered “depleted”, but are below the 30% threshold and in recovery. Decker said that “recovery” was in the management plan, while “depleted” was not. Long said that “recovery” implies growth. Hebert noted that geoducks have sporadic, infrequent (not annual) recruitment and that was why the threshold was in place.

LaCroix said they needed to determine a methodology as to how densities are derived—they needed a standard, so they could use the same method when checking out a potential farm site. He said they also needed to look at geographical determinants that preclude commercial fishing. LaCroix said they needed to make the calculations less subjective.

Timothy said in 1999 farmers proposed bonding to determine whether it was the primary objective of the applicant to farm or access wild stocks. She said they needed to come up with a proposal to ensure that sites would replanted when farmers left. LaCroix said he was willing to discuss it further, because the potential for bonding closes the door on a lot of smaller operations and opens the door for corporations and venture capitalists. He said if that were incorporated into the regulations, it would make it more and more difficult for people to get involved in the process, and the smaller operations would be pushed out. Bedford asked how it would be harder

for new applicants, and LaCroix said there would be fewer and fewer sites if they didn't develop a better standard for density because farmers get overwhelmed as to how to select a site. He said they should be trying to make it easier for people, but when the standards are subjective it becomes more difficult.

Bedford asked whether the cost of bonding would be a great impediment. Painter said the reality of bonding in Alaska is that they're getting more difficult. LaCroix said the bonding process was extremely prohibitive. Long said they had to put up a \$100,000 cash bond at the hatchery, but with a broader pool it might become less prohibitive. Bedford said they needed an objective definition of significance. Decker said that how they calculated guideline harvest levels is changing, and she would like to see a poundage level instituted and also see a precision standard of 70%. She said SARDFFA needed to keep poundage level as low as possible, and the issue of precision was also very important, realizing too that the costs for surveying will increase. LaCroix added that they needed the same standard of transects applied to both commercial fisheries and farming sites. Decker noted the number of transects depended on how "patchy" the geoducks were dispersed. Bedford said for the third definition of significance (C) they would begin a dialogue on that later; he said he'd get back to everyone by e-mail and let them know. Bedford adjourned the meeting at 12:45 p.m.