

Transcript of Meeting at NELHA Conference Room
on Friday, May 17th, 2002, to review the potential for interaction between
Kona Blue Water Farms' proposed open ocean fish farm off Unualoha Point, and dolphins.

Present : Neil Anthony Sims and Dr Dale J. Sarver (Black Pearls, Inc.), John Corbin (Director, Hawaii Aquaculture Development Program), Randy Cates (Cates International, Inc.), Sara Peck (West Hawaii UH Seagrant Extension Service), Jan Ostman-Lind (Kula Nai'a Wild Dolphin Research Foundation, Inc.), Jeff Leicher (Jack's Diving Locker), Porter Watson (TropicSea Video).

Invited, but absent : Sallie Beavers, Lisa Choquette (Dive Makai), Bill Freidl (CEROS), Marc Lammers (HIMB), Teri Leicher (Jack's Diving Locker), David Mattila and Jeffrey Walters, (Hawaii Humpback Whale National Marine Sanctuary - HIHWNMS), Paul Nachtigall (HIMB, Marine Mammal Research Program), Jim Passon, Caroline Stewart and David Tarnas (Malama Kai), Bill Walsh (Kona DAR).

Meeting convened at 10 am. Neil reviewed salient aspects of the proposed project, and outlined the potential interactions between the offshore fish farm and current public use, and other issues. BPI has held many public meetings over the past year to discuss the project with a range of community interests, and the presence of the dolphins in the area has been a concern that has been often raised.

Over the last year, BPI has conducted a search of the relevant literature, and held discussions with interested parties to understand the situation better. This information has been compiled into a working draft of the Draft Environmental Assessment (EA). This working draft had been previously circulated to the invitees, and this meeting was convened to specifically "review this information, and consider other information or recommendations that might be included in the Draft Environmental Assessment (EA)."

Jeff asked about the anchors for the fish pens. Neil answered that as it is a sand bottom on the site, the most efficient anchors would probably be Danforth or plow anchors with very large concrete weights.

Neil then reiterated the salient points of the working draft of the Draft EA. These were :

Current Environmental Setting : Makako Bay, near to the proposed site, harbors large groups of resting spinner dolphins; the schools are not discrete, but are fluid and wide-ranging; the proposed farm is not directly in the path of the diurnal migration of the dolphins; the dolphins vary in school size and sites; rest areas appear to be located on an opportunistic basis.

Potential Impacts and Mitigation : Fish pens appear to neither attract nor repel dolphins; spinner dolphins can readily adapt to new objects; static structures offer less intrusion than boats or divers; the pens will not inhibit dolphins ingress or egress to Makako Bay, as dolphins will, at most, have to swim 300 feet in any direction to get around cages; the mooring lines will not likely restrict the dolphins' movements; there is negligible risk of entanglement by spinner dolphins or other marine mammals in taut mesh or taut moorings.

Jan expressed concern that the anchor lines would be in close proximity to the dolphins' resting area. He indicated on one of the charts the dolphins' usual resting area, which had no overlap with the proposed lease area. He showed two extensions of this resting area, which were areas where the dolphins sometimes moved back and forth while resting. One extended north and west out to overlap with the southwestern-most corner of the proposed lease area.

Randy then talked about his experience operating his offshore fish farm out from Ewa Beach, Oahu. Randy has worked with marine mammals since he was 12 years old, and on his fish farm he is obligated to keep records of all observations. Dolphins will often come in near the cage, without being attracted to it or repelled by it. If they encounter the cage in their path, when swimming in a straight line, they just move around it or under it, and continue on their way. Randy sometimes sees spinners feeding around his cage. He has seen dolphins 'resting' within 300 yds of his cage – both spinners and spotted. He has also seen humpback whales come in very close to his cage, without any effect.

John asked for more information on the 'resting' behaviour. Jan described it as a calmed behaviour, with no aerial activity, and with synchronized surfacing and descending by the school. They are never feeding while resting.

Jan described the daily movements of the dolphins into Makako Bay, from gathering between Kua Bay and Makalawena, and moving along the coast towards the South. They pass inshore of the proposed lease area, and gather in Makako Bay by around 11 am. After resting, they then leave around 1.30 pm, and head back out to the fishing grounds towards Maui.

There are four major resting areas on the central Kona Coast: Makako Bay, Honokohau (a group that is often found at the mouth of the harbor), Kailua Bay, and Kealahou Bay. The question was asked why they select these resting sites. Norris' theory was that it is primarily for protection from predators, but Jan described a colleague's work in Mo'orea, where it was shown that it was mostly a preference for calmer waters. The resting in Kealahou Bay occurs from 9 am up to 4.30 pm.

Jeff posed the question as to what happens if the lease is granted, and there is then shown to be a negative impact from the project. John replied that there is language in the leasing law that allows the State to pull a permit or rescind the lease if there is some negative impact. The Federal NPDES permit is also renewable every 5 years. An Army Corps of Engineers permit is also required, which addresses concerns about navigation and marine mammals. Randy stated that he reports to Margaret Dupree (NMFS marine mammal specialist and ESA co-ordinator) regularly, as one of the conditions of his lease. John Naughton (NMFS habitat specialist) is also involved in monitoring his project, and was diving on his cage with him last week.

Randy stated that this technology is very new, and he is doing a lot of monitoring. He is the only commercial offshore cage in the U.S., but he has been involved in deployment of offshore cages at sites in 6 other countries – most of which have much more potential for interaction with marine mammals. There have been no problems reported from any of these sites. It was Randy's opinion that dolphins are impacted more by a change in boat movements or daily routines.

Dolphins will adjust quickly and readily to the static structures like the fish pens, and to regular daily feeding routines by the boat on the farm. They will be more disturbed by changes such as boats coming directly into their resting area on an irregular basis.

Porter stated that dolphins don't mind the boats at Honokohau; that they actually like bow-riding on the boats entering or leaving the harbor. Jan stated that it was only sub-adults (adolescents) that do the bow-riding, not adults. Randy cited studies that he had been involved with which showed that bow-riding dolphins use 15% of the energy capacity, versus 45% of their capacity if they are riding in the wake of a boat.

Dale pointed out that there will be very little activity on the proposed farm. Eventually BPI would like to operate most of the farm by remote control feeding systems. Sara asked how many people will be employed on the farm. Randy said that he currently employs three workers, and himself, but then there is a lot more economic activity generated from feed suppliers, fish wholesalers, etc. Sara stated that West Hawaii Fisheries Council has set up a committee to review the whole question of offshore fish farming, as there seems to be a lot of interest in the topic.

Randy urged Sara to make sure that the committee looks at the positive impacts of offshore farming, as well as the negative impacts. Randy's project has spent nearly \$1 million in getting to its present state, and a lot of this has been spent on monitoring to ensure that there is no negative impact. There was a Phase I feasibility study, which looked at feces and food levels, and potential for pollution – there was no impact. Phase II examined the same questions at commercial densities, and again there was no measurable impact. Now that he has his commercial lease, there is Phase III monitoring being conducted by Chuck Helsely (former Hawaii SeaGrant Director). Randy has 200,000 fish in the water, and Chuck still can't detect any impact on water quality if he is more than 10 feet away from the cage. Even so, Randy's cage is still required, under the NPDES permit, to be regulated the same as if it were a city sewer outfall.

Randy described some of the benefits that he can see on his farm. Formerly, they did over 30 dives on this site, and all they saw were eels and the occasional crabs. Now, there are 30,000 – 40,000 fish that gather in around his cage. It acts like a giant FAD. Fishermen used to be opposed to the idea of Randy's cage, but now they really appreciate its presence. The fishermen are Randy's best supporters, and help with his security. Once, Randy had to use a different boat to tend his farm. Within 5 minutes of tying up on the cage, he was getting calls from fishermen telling him that there was a strange boat on his farm site.

Randy himself used to be a commercial fisherman – he was always taking things out of the ocean, but never putting anything back. Now, he's not taking out any more, he is giving something back. He loves the idea that open ocean farming is reducing the potential for negative impacts, by moving into deeper water where there are better currents.

Jan concurred that, in general, the idea of an offshore fish farm is a great concept, but he is just concerned that this happens to be a sensitive place. Would it be possible to move the farm deeper? Dale said that if it were deeper, it would be unsafe for divers to maintain the anchor

moorings. Neil also pointed out that if it was deeper, it would run into the 240 ft depth contour - the "ono alley" - where the trollers work. Randy was also concerned that if it were deeper, it would become very unsafe to be monitoring the bottom. His monitoring requires his divers to conduct monthly video profiles of the bottom. If it were deeper than his farm's 150 ft, this would become very dangerous work.

John asked if there were other things that could be done to mitigate the potential impacts. Jan said that he thought it was a problem, as no-one had any idea what the impacts would be. Randy disagreed, and said that yes, there is a very good idea of what the impacts will be - his farm provides the perfect test case, and there had been no measurable negative impacts - only positive ones.

Jeff pointed out that maybe the cages will provide a refuge for the dolphins, away from the divers and boats. Randy thought that this would definitely be the case. Dolphins will try to find areas away from any boats and divers that are pursuing them.

Jeff asked Randy if he was acting as a consultant to BPI on this project. Randy replied that he wasn't, that he was his own guy, but that he has been a commercial fisherman in the past, and that he sees offshore fish farming as the way of the future, to give something back. He wants to encourage offshore fish farming expansion, and he thinks that this proposed site here is a good site to do it.

Randy then showed a video with footage from his farm site in Oahu. He gave a commentary as the video ran. There was footage of the cage with nursery net, with 3 gram moi, and then harvesting at 1 lb. He can harvest 15,000 - 20,000 lbs of fish in 2 hours, with 3 divers. He has two cages now, soon to be three. There was footage of a turtle resting under the cage (this was at the earlier trials - there are no turtles at his deeper site), footage of some of the schools of fish around his cage (predominantly loulou - broomtail filefish, and palani - surgeonfish), and of spinner dolphins that, according to Randy, were swimming directly under the cage. The cage acts like a FAD, but there is no risk of entanglement by fish as the mesh is small, and very taut - like a drum.

Other positive impacts that Randy described were that previously there was no fishing in the area, but now there is a lot of crabbing and opelu fishing around his cage. There has been no negative interaction with fishermen - in fact the fishermen have asked him to mark it with a surface buoy, so they can find it easier. Randy is recording presence of marine mammals and endangered species on a daily basis - this data would otherwise not be available. There are dolphins that swim right by the cage, without any apparent interest or effect. Whales also pass by very close to the cage. John Naughton, of NMFS, was very surprised to see the number and proximity of the whales.

There is also some potential for the cage being tied in as a tourist draw, but Randy doesn't want to get involved in that. He described how fish hatcheries in Alaska were visited by large tour groups on a regular basis.

There is extensive monitoring of water quality – each month they collect 130 samples, from up to 1000 yards away. There has been almost 4 years of monitoring on his farm, and the water samples downstream from his cages are often cleaner than the samples from upstream! Randy said that he thinks that this is because the algae that settle on his cage soak up a lot of the nutrients in the water – there is a lot of nutrient loading at his site because of the flushing from Pearl Harbor. They are now getting an automatic water sampler, so they can go to 24 hour water sampling. They also do benthic monitoring under the cage, up current and down current, and extensive sediment samples.

Randy said that they clean the Ewa cage every 3 months – it takes two divers two days to clean one cage. The spectra netting is very tight and easy to clean. They get a lot of algae growth at his site. He considers that this site here off Unualoha is a good site, with clean water and good currents. Randy said it is better than where he is located – especially the sea conditions. There are different types of cages, and Randy thought the proposed site would be good for either submersible Ocean Spar cages or surface gravity-cages. Randy felt there should be one stipulation: that there should not be a single point mooring, as this could then break loose and drift around. He didn't think that insurance companies would be likely to insure a cage system with only one anchor, and that at least two would be better.

Jeff asked if other types of anchors had been considered, such as sand screws or manta anchors. Dale replied that we would examine other options, but at this time, the best available engineering advice from the cage manufacturers was recommending concrete blocks and plow/Danforth style anchors. Randy said that in Ireland, at a really rough site, they had used other kinds of anchors and they had some problems.

Randy reiterated that on his Ewa Beach farm, there has been no negative interaction with anybody – no complaints from homeowners, divers, fishermen, etc. He has been involved in bottomfish surveys around the State, and knows how diminished the stocks are. In his mind, there are only two choices - area closures or stock enhancement.

Randy quoted some figures on Hawaii's current imports of fish. This State brings in over 10,000 lbs per week of opakapaka from other Pacific Islands and Southeast Asia, and over 70,000 lbs per week of mahimahi. He considers that this is both unsustainable (the stocks on other islands will eventually be depleted) and it is also unfair of us to expect other islands and other people to have to support our food requirements. He thinks that we should be willing and able to support ourselves. He feels that offshore fish farming will allow us to do that.

Neil thanked everyone for their attendance, and said that he would circulate a transcript from the meeting. BPI would still like to receive written comments from those present, or from those who were not able to attend.

The meeting then ended.
