

# 2.0

Jan.1

Sunset

#

Meridian

Star Names

Declination

Altitude

Star Distance

Equal Distance

6.00	4h 00m	Auriga (w)	38°	18°	16°	14°	7°	38°	
		Pointer (2)	45°	11°	9°	7°			
7.10	5h 40m	Procyon	+05°	51°	49°	47°	27°	31°	
		Pollux Castor	(Castor lower) 32°	24°	22°	20°			
8.13	6h 52m	Neck Hydra	06°	50°	48°	46°	42°	0°	
		Pointer of Obtun Talitha	48°	8°	6°	4°			
10.5	8h 20m	Algebra	21°	35°	33°	31°	21°	27°	
		Tania	42°	14°	12°	10°			
11.12	9h 48m	Denerola	15°	41°	39°	37°	39°	3°N	
		Phecoa	54°	2°	0°	-2°			
12.13	10h 52m	Cor Coroli	38°	18°	16°	14°	18°	16°	
		Alioth	56°	0°	-2°	-4°			
13.13	11h 52m	Hoku Kau	18°	38°	36°	34°	31°	10°	
		Alkaid	49°	7°	5°	3°			

# 2.0

Jan.1

Time

Meridian

Star Names

Decli-

nation

Altitude

Star

Dist-

ance

Equal

Dist-

ance

#	Meridian	Star Names	Decli- nation	Altitude	Star Dist- ance	Equal Dist- ance		
17.4	15h 16m	Masyum	25°	31°	29°	27°	12°	41°
		Herc Bottom	37°	19°	17°	15°		
17.15	15h	Rasalhague	13°	43°	41°	39°	40°	3°N
		Rastaban	53°	3°	1°	-1°		
NORTH DECEMBER CHART								
1.02		Mirach	36°	20°	18°	16°		
3.06		Mirfak	50°	6°	4°	2°		
5.04		Capella	46°	10°	8°	6°		
9.09		Apex of Obtuse	52°	4°	2°	0°		
12.13		Cor Coroli	38°					
18.00		El Tanin	51°					
18.10		Vega	39°					

# 2.0 Jan.1 Sunset									
#	Meridian	Star Names	Declination	Altitude				Star Dist- ance	Equal Dist- ance
				34°	36°	38°			
22.16	- 3h 16m	Hoham	11°	45°	43°	41°	19°	41°S	
		Matar	30°	26°	24°	22°			
23.01	- 2h 56m	Marka B	15°	41°	39°	37°	13°	49°S	
		Scheat	28°	28°	26°	24°			
0.01	- 1h 56m	Algeni B	15°	41°	39°	37°	14°	41°S	
		Alpheratz	29°	27°	25°	23°			
2.01	+ 0h 04m	Hamal	23°	33°	31°	29°	19°	29°S	
		Almach	42°	14°	12°	10°			
3.01	+ 1h 04m	Menkar	4°	52°	50°	48°	37°	12°S	
		Algol	41°	15°	13°	11°			
3.12	1h 48m	Pleiodes	24°	32°	30°	28°	24°	18°	
		Mirfak(pair)	48°	08°	06°	04°			
5.06	3h 24m	Bellatrix	+06°	50°	48°	46°	23°	38°	
		Elnath	+29°	27°	25°	23°			

SOUTH STARS - NEW ZEALAND

#/Time	Star Name	Status	---Altitude---				Pole Dist.	Star Dist.	Equi. Dist.
14.0	Beta C.	Und.	4°	6°	8°	30°			
	Alpha C.	Und.	5°	7°	9°	29°	4°	33°S	
	Circinus	Und.	9°	11°	13°	25°			
	East star of Hydrus	Top	50°	52°	54°	16°	47°		
	Top Star S. Triangle	Und.	7°	9°	11°	27°	47°		
	Atria	Und.	13°	15°	17°	21°			
8.5	East pair Chameleon	Top	47°	49°	51°	13°	46°		
20.6	Peacock	Und.	1°	3°	5°	33°	46°		
**	Two Stars of Pavo	Und.	10°	12°	14°	24°	9°	42°S	
22.4	Toucana	Und.	4°	6°	8°	30°	50°		
10.13.5	Pair of bott. Miaplacidus	Top	54°	56°	58°	20°			



Synchronize Rise:

Time	Latitude	N Star	S Star	Comments
	33° S	Algebra	Geniah	
	38° S	Denebola	Spica	
	33° S	Hokulea	Shaulus	
	30° S	Hokulea	Antares	

Synchronize Set: at 34° south

		Gemma	Spica	
		Hokulea	Gienah	
		Procyon	Between Mirzam, Sirius	
		Castor	Betelgeuse	

6) LANDFALL CLUES: BIRDS \_\_\_\_\_

SWELLS \_\_\_\_\_ CLOUDS \_\_\_\_\_

OTHER \_\_\_\_\_

EVENTS/DAY \_\_\_\_\_

REPORT # \_\_\_\_\_ DAY \_\_\_\_\_ RISE/SET \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_

HEAD LEEWAY COURSE SPEED EAST MAIN M.STEP MIZZEN M.STEP

CLOSE

1 OFF

2 OFF

3 OFF

DATA

FORMULA

1. COURSE +  
2. EASTING =  
24 HR/1 KNOT

3. SPEED = \_\_\_\_\_ A) EASTING TIME EASTING CONVERTED

\_\_\_\_\_ X \_\_\_\_\_ = \_\_\_\_\_

4. TIME = \_\_\_\_\_ B) EAST CONV. TIME CONV. APP. EAST

\_\_\_\_\_ X \_\_\_\_\_ = \_\_\_\_\_

5. CURRENT = \_\_\_\_\_ APP. EAST CURRENT NET EAST

\_\_\_\_\_ - \_\_\_\_\_ = \_\_\_\_\_

Back  
1700

REPORT # \_\_\_\_\_ DAY \_\_\_\_\_ RISE/SET \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_

1) LATITUDE \_\_\_\_\_ CLUES \_\_\_\_\_

APP. EAST \_\_\_\_\_ CURR. \_\_\_\_\_ NET EAST \_\_\_\_\_ W/MARQ. \_\_\_\_\_

COURSE LINE \_\_\_\_\_ SAIL SEC. \_\_\_\_\_ SAIL DAY \_\_\_\_\_ TRANS. DAY \_\_\_\_\_

HSE. &amp; MI. FROM LINE: WEST \_\_\_\_\_ ON \_\_\_\_\_ EAST \_\_\_\_\_

DIR. TAHITI \_\_\_\_\_ DIST. \_\_\_\_\_ DIR. MARQ. \_\_\_\_\_ DIST. \_\_\_\_\_

DIR. HAWAII \_\_\_\_\_ DIST. \_\_\_\_\_

2) COURSE \_\_\_\_\_ AVERAGE COURSE \_\_\_\_\_ PRESENT COURSE \_\_\_\_\_

COURSE MADE GOOD \_\_\_\_\_

SPEED OVER WATER \_\_\_\_\_

4) WEATHER: WIND SPEED \_\_\_\_\_ STABILITY \_\_\_\_\_

WIND DIRECTION \_\_\_\_\_ STABILITY \_\_\_\_\_

CLOUD LOW \_\_\_\_\_ % COVER \_\_\_\_\_

TYPES: MID: \_\_\_\_\_ % COVER \_\_\_\_\_

HIGH \_\_\_\_\_ % COVER \_\_\_\_\_

TOTAL % CLOUD \_\_\_\_\_ PRECIP. \_\_\_\_\_ LIGHTNING \_\_\_\_\_

SEA STATE \_\_\_\_\_

COND. OF SWELLS \_\_\_\_\_

WEATHER CHANGES/REMARKS \_\_\_\_\_

4) CANOE STATUS: \_\_\_\_\_ PT. \_\_\_\_\_ TRIM \_\_\_\_\_ SAIL TYPE \_\_\_\_\_

NOTES \_\_\_\_\_ MAIN \_\_\_\_\_

\_\_\_\_\_ MIZZEN \_\_\_\_\_

\_\_\_\_\_ TRI SAIL \_\_\_\_\_

\_\_\_\_\_ POS. AFT. STEP \_\_\_\_\_

5) EVENTS \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Do the Archival Down for what  
Do the education stuff for what  
Do the 1 hr film for what.

Mission of Documentation  
<sup>continued to</sup>

To answer more precisely ~~to~~ as to  
how Captain Cook's question of 1778: "How  
shall we account for this nation having  
spread itself to so many detached islands so  
widely dispersed <sup>from</sup> each other in  
every quarter of the Pacific" — an oceanic  
area <sup>with dotted islands</sup> ~~with the size of the United States~~  
dotted with many islands.

To record ~~document~~ record the ~~present~~ <sup>summing</sup>  
of ~~present~~ <sup>of</sup> ~~human~~ <sup>the</sup> ~~in~~ <sup>the</sup> ~~for~~ <sup>the</sup> ~~actions~~ <sup>people</sup>  
of this ancient nation in ~~the~~ <sup>the</sup> ~~process~~  
of ~~rediscovery~~ <sup>of answering</sup> the Cook's  
question through this act of rediscovery.

To ~~the~~ <sup>these</sup> ~~ancient~~ <sup>ancient</sup> ~~culture~~ <sup>common</sup>  
the survivors of ~~the~~ <sup>present</sup> ~~ancestors~~ <sup>ancestors</sup>  
and the ~~symbol~~ <sup>symbol</sup> of their ancestors  
survival, the ~~ancient~~ <sup>ancient</sup> ~~repliques~~ <sup>repliques</sup>, ~~the~~ <sup>the</sup> ~~Hakulea~~ <sup>Hakulea</sup>, the Navigator, ~~and~~ <sup>and</sup> the crew.

To record life as it is — ~~in order~~  
~~as this nation~~ as the ~~survivors~~ <sup>survivors</sup> of  
that ancient nation's struggle to survive today.

INTERVIEW WITH NAINOA THOMPSON - Thursday, August 2, 1984  
KHET (Dole Street)

Nainoa: I think that's one of the real drawbacks, just how ~~we are~~ going about bringing this experience to a broader audience. At least that's what really holding . . . been holding a lot of this project from going.

Chris: I'm really intrigued, as an individual how you have brought yourself to the desire and knowledge of doing these things. And that it's very important in terms of something, I mean there might be somebody, a kid in school right now who will see something in this and they really want to try do something. So if we can obtain from you and your experiences some ideas about your motivations and what the experiences meant to you and sort of some of how you managed to do this. Um, I think it would be very important. Along with everybody else. Obviously, it isn't just one person either.

Nainoa: Definitely

Chris: Right.

Nainoa: It's a whole *Paelm. Int. KHET* lot of people put together

Mar: When you put together *the point is that what* kind of information. . .

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Nainoa: Definitely

Chris: Right.

Nainoa: It's a whole effort. An awful lot of people put together

Mar: When you put together the grant basically what kind of information. . .

Chris: It depends. . .different places require different emphasis. Ah, okay. . .

Mar: Do you have to know more or less, what Nainoa sees as the goals of this voyage?

Chris: Yea, yeah. . .goals that. . .different levels of goals, personal goals, group goals. There are ones that are even more global, I suppose in terms of people everywhere.

Mar: Like what you think is important in the documentary.

Chris: What we are going to have to do is be in touch with principals like yourself and other people who have been very active and get a sense of exactly that. So maybe you would like to share as you see as the importance of. . .

Nainoa: And this stuff needs to be written down and submitted in two weeks?

Mar: Yes. We want to be sure that when we submit it, we are getting your ideas of what you think is important. So that, not what he thinks, or what I think is important, you know. Because those aren't the things that need to be covered.

Chris: Because I see my role as maybe helping interpret what you think is important in the proposal. I can look at what you think is important and try to show them how that fits into there project, organizational funding. But it is really you. That's the whole reason for doing it.

Nainoa: And the real push is this deadline, right?

116

Page Three  
NAINOA THOMPSON

Chris: Yes.

Nainoa: How do we begin?

Chris: How did you begin?

Nainoa: Do you want to go through all that business?

Chris: What made you even want to do it in the first place? And then in terms of how you see this as important beyond just yourself.

Nainoa: I don't know. It kind of grew on me, I guess. It wasn't something that I decided just overnight that I was going to do it. I was involved with the HOKule'a before it was even built. I was working with Herb Kane, those guys on the smaller canoe. . .Nalelihua . I was just kind of captivated by all the dreams, than more the reality. It was more like the romance about long distance sailing. And um. . .

Chris: How old were you then?

Nainoa: Twenty-one. Well Herb Kane. . .you know who he. . .he lived across the canal where we used to paddle and he needed guys to paddle his canoe through the reef all the time. So we used to all jump in and take it out. And he invited the three of us over to dinner one night and that's how it all began. And he was telling me about, come in the yard and this is how you navigate to Tahiti, and these are

15



Page Four  
NAINOA THOMPSON

Nainoa: the stars we are going to use. It was so fascinating. That's when I said, I want to get involved in this, not the navigating cause it was something way beyond me. I never really believed that I could ever. . . I guess navigation for a long time was something mystical, caught in history and not a part of the Western World anymore. I never really realized that would ever really be a part of my life that I would actually be doing. That didn't come out until. . . 1977.

Chris: First, was sort of a more adventure.

Nainoa: Yeah, I want to go. I wanted to go with Herb Kane to the death. That kind of thing. So I did sail on the Hokule'a when it was built, and ah, I made the crew in 1976 the first trip. That was a long process, trying out, and they had a pretty weird selection process. Well, anyway when I went on that trip, things kind of really. . . I found a real balance, I guess, in myself. . . things that were important -- the ocean. I guess pure adventure, a challenge to go out and do something so unique. That's a lot of it, you know. I found out, that things became more clear what were more important to me. How important was the ocean to go in my life to go and do this. It became more clear that I wanted to do more. That's when it began. I began studying the navigation with Mau was here in 74 and 75. Kind of tagged along with him and watched things that he watched and listened to him

Page Five  
NAINOA THOMPSON

Nainoa: whenever he was going to talk. But that was just pure interest.

Chris: What was it like with him? Was he interested in sharing it with you or someone or?

Nainoa: Yes. He always was. I think he always was. There was barriers in the early stages because he was tugged and towed by so many different groups of people and don't need to get into that. But groups became possessive of him and he tended to clam up because he didn't know where he stood or what this whole thing. . . was way beyond his own experience, and so he wanted to go home. In the early part he said forget it, I'm going. They talked him out of it, so he really wouldn't say much after a while, cause he didn't know where they were coming from. And ah, he had a distrust and a distaste for. . .

Chris: Understand

Nainoa: People even on this island you know. And ah, so, he really didn't learn anything really direct from him then. Only once in awhile when he'd speak up. I can remember instances when I just couldn't imagine how he kept track of stars and you know, in the night, he has a watch, but I don't even know if he knows how it works though. But he'd keep track of the stars at night when they are rotating across the horizon. He would do things like that

Page SIX  
NAINOA THOMPSON

Nainoa: to me, I would just be fascinated by it. And the quality of his character, and the ability of his senses. . .I don't know how to put it. They are different then . . . navigation different then maybe the way we perceive our world. The perception of their senses so powerful. That's when I began to understand that the skies are so different. Maybe not only the ocean, but my head. . .he was a link to that without even knowing and ah, I realize that he is the kind of like. . .the step into the past. And he could take me in there. At least bodily, and ah, I don't think I really knew that consciously, but I followed it anyway. I mean the nights when he would speak of the Southern Cross and where it was I would go out and look and it would be there, I just couldn't understand. . .I can do that a little bit now.

Chris: So in a way, he became a link to the past knowledge?

Nainoa: I think so. I always have this problem. . . the voyaging pattern in history, when I look at, that's one thing I'm looking for in terms of documentation, I personally, because voyaging happens, long-distance voyaging at least what we know now from oral tradition or some of the writings of the early explorers happened quite a long time ago.

Page Seven  
NAINOA THOMPSON

Nainoa: I think what we should really try to do, is the knowledge we already have and start asking some real solid questions. . .It's a given already, we know where they went in the Pacific Area. They scattered through 10 million square miles of ocean and they populated the islands by the time of Cook and that one given, we know that they done it. Through my experiences, I know that there are some real technical problems in trying to accomplish that. One is the vessel and the other is the navigation. The two basic things. The other things like transporting food or plants is really minor. We know they did it because they were transported. I think by combining knowledge of archaeology and carbon dating, most tangible evidence that shows when they made the movement, and from that try to find what the knowledge bases were. What did they have to know in terms of stars in a round trip voyage? What did they have to know in terms of geography. Like geography, I know in the navigation, for you to be able to do a round trip voyage you gotta know where the islands are, how much would they have to know? I think quite a bit. How did they know? And I don't think we can ever duplicate or even say this is how they did it, but maybe we can come up with solid questions through research now and through our experiences of sailing.

10

Page Eight  
NAINOA THOMPSON

Nainoa: What were their. . .how could they understand their world through their senses? And how powerful was that? I am just kind of talking off the top of my head. It is more a step towards the truth, because even I can criticize a lot about the past trips in terms of authenticity because you are talking about a vessel designed after a time when Cook was here which was about 700,000 years after the voyaging. I don't have difficulties in terms of sailing on Hokule'a, I wouldn't sail on anything else, but when people say this was an ancient voyaging canoe, impossible to say. I'd rather say this trip is more geared at more something tangible, more like looking at possibilities of what they sailed. We're not going to say exactly what they did know. . .take steps into solid questions, good questions, and come up with some plausible answers. More of a direction towards a stronger sense of truth, by taking the evolution of how man moved into the Pacific and looking at that in terms of the time frame. I know what I'm trying to say, but there is so much to be done to make the questions more clear.

Chris: The traditions. . .how did they pass it on? There is something about the knowledge base, but there is also something about the skills it took, we might call it education today, how does this generation, tell this generation to do what they did? Was it part of the ceremonial life of

Page Nine  
NAINOA THOMPSON

Chris: the community that was able to do that.

Nainoa: The memorization is the hardest part of the navigation. . .to have to memorize and concentrate when you're tired and under pressure. That's tangible, because Mau is one who doesn't know the written language, but he still retains unbelievable amount of knowledge in terms of his island. One island he knows of all the compass bearings of all the other islands. He goes to another island and he knows all the compass bearings to that. Memorizing all that. Not only that. . .there are orators in a lot of places of Polynesia , that have the techniques of memorizing. Like Kamehameha, in order for him to achieve, to take the steps, he had to know the chants word for word. And if he didn't they would kill him. So that's a very important part, at least the alii part. I mean look at the knowledge, somehow these guys had to memorize and that's a lot.

Chris: A relationship between the people and their environment. . .today I think there is a barrier between the people and their environment with the kind of knowledge you are talking about. So in fact, you might have had to unlearn a lot of things that you acquire that you know possess.

Nainoa: I don't know. Things seem to come to me so easy I guess and over such a long period of time too, that I don't really know where things really began and end or

PageTen  
NAINOA THOMPSON

Nainoa: when things made sense or not.

Chris: YYou didn't remember one day saying ah.hah?

Nainoa: Oh, sometimes yeah, but majority of the time, no. Sometimes things just come to me. A lot of times it comes early morning. I've been thinking about it all day, I wake up and in my dream I realize , I can figure it out. It's not that it is anything miraculous, but I just think in my sleep I think a little more clear.

Chris: But that's a different way of learning than. . .

Nainoa: Yeah, yeah. I learned a lot of stuff, to tell you the truth, a lot of my stuff was writing it down and figuring it out, you know. Taking the my process of learning figuring, problem solving, but the thing is when we went we never used anything written. We never used any records. We kept ah, taped logs and we never went back over the tapes. That's um. . .

Chris: So that way you tried to ensure . . . accuracy. . .

Nainoa: When you learn the thing about it, it's accurate, it's real difficult to say, probably not, totally in terms of how you learn. I'm not learning the way Mau learned and 100% sure that I'm not learning the way the traditional Polynesian navigator learned.

Chris: Have you been out to Mau's community?

Page Eleven  
NAINOA THOMPSON

Nainoa: Not his island, but a different island.

Chris: What do you see in terms of the effect this might have, or the importance this might have to other Polynesian people?

Nainoa: I think ah, what I've seen in Tahiti and I know in Fiji and like in New Zealand, just from talking to people. . . I think for them culturally it would be probably the most important event in their lives for a lot of people. I think, you know, most Polynesians really struggle and toil with the idea of taking on the Western culture and giving up their past. I think when something like the Hokule'a they really can identify with and brings back them some kind of personal strength. I can't speak for that, I don't really know how they really feel, but I know it would be very important. And that just comes naturally, you know what I mean. Don't need to force that or anything just sail down there. . . that's enough. I think it brings to them a part of their tradition that they find pretty glorious I guess. And something that they hang to, as something really positive. And ah, like I said, something that would happen just naturally.

Chris: What do you see as important in addressing this a practical way, what things or events are going to be occurring, practical kinds of events that are going to be happening, like you said you're expecting to get out of drydock sometime in January. What about between now and then. . . meetings



Page Twelve  
NAINOA THOMPSON

Chris: that are going to be happening, crew selection process. . .all that kind of stuff, in terms of sort of a rough time line that we can look at and be sort of aware of.

Nainoa: Between now and the time we go to drydock should be about mid- September. There is crew training going on between Maui and the Big Island, guys from Lanai and Molokai and ah, just basically taking new people out. Getting a lot of different people out there and become potential candidates for the next trip. And when it goes up on drydock, at least we will make a preliminary crew selection right then and there. All these candidates will have to go through a physical and pass that and a swimming test.

Mar: In January?

Nainoa: No, September. The reason that it is so early so that they get their jobs squared away. They get a lot of time to get their jobs squared away, and whatever personal things they got to take care of. Then we will have the bulk to set up crews for planning purposes. On drydock, when we are training we are going to be doing is the navigational training the crew members need to know to be able to steer. So we'll do that mostly in the planetarium. And then just some sitting outside night time, to begin to orient themselves with the stars. And then, some meetings are going to be general health and that kind of thing, and working on the canoe on drydock. The sail design is kind of important I think.

24

Page Thirteen  
NAINOA THOMPSON

Nainoa: The sail design is going to decide . . .well, we're trying to evolve better sails. And to be able to say at least Hokule'a is a performance replica of a sailing canoe, could have this performance, especially windward performance. Art Nelson has a tradition of his grandfather's father and now him, third generation sail maker in Hawaii , really knowledgeable guy. So he's the one coming up with different ideas of how to work the sail design within the so-called limits of the crab-claw design. And then when we come out of drydock, we'll go into testing the new sail design and the final training of the crew to get prepared for the trip. Then get the canoe up to Hilo which is a pretty long sail, upwind. That's basically the movement of the canoe and the crew and all the other stuff I really don't know.

Chris: Okay, I think we want to look at the other stuff, too, because like you and the crew and those people are doing. . .and also the relationship of the other people who are raising money and bringing the word to the community that it is going to happen and all of that. So actually in the next five months are important in terms of a lot of activity.

Nainoa: A lot of that stuff I don't know, because I'm trying to stay uninvolved. I'm just trying to get ready for the navigation.

Nainoa: Do you have. . .when you select the crew how does that happen? Do they. . .is it a group process or

Page Fourteen  
NAINOA THOMPSON

Chris: or is it one with a couple of people have been through it and can say, hey this guy will work, or this person will make it?

Nainoa: The bulk of the crew has already been chosen that's guys that have proven themselves over ten years. That's a really good plus, cause they got good sailors. I mean real excellent seamen that can carry through a lot of hard parts of the trip. The selection process is really. . . I should really give you the history on this. First, we made a pre-selected list (the guys that we know can sail). We had a meeting with them, and we said, okay these are the legs that are going on this trip sign up for the ones you want and then we figured from that whatever opening we got how many new candidates we gotta bring in. And everybody started signing up and we ended with too many people already. You know like double the amount. . . 21 guys on the first leg... that kind of thing. So we said there has to be some balance, we gotta bring in some new guys. So we cut back a small group of guys actually trying out. So the selection process is just us guys sailing with these guys and looking at them and saying he's good. Before we went through all this criteria and stuff, it really doesn't work. I think it's more about how you look at the guy and think about him. It's really subjective. But to me the past two trips we did, just doesn't work. Numbers. . . the guy gets a five. So without looking at a large group of people we're just doing it by

Page Fifteen  
NAINOA THOMPSON

Nainoa: suggestion. The Captain has the last say.

Chris: What's the relation between you and the Captain in terms of how it actually works?

Nainoa: It's real good. He lets me do whatever I want. Anything that pertains to the navigation, I have total control, and I don't care about the rest. So we really don't have conflict.

Chris: I don't mean necessarily in terms of that way, but how, you really answered it, because the Captain has the final responsibility for all the other aspects.

Nainoa: And he's said that if he feels we are in danger he is going to call it, you know, cancel the navigation, That's how it was in the past, you know. He felt that there was a certain amount of danger, he could step in and stop the whole thing or like we're sailing at a point of sail that I want to go in that direction and it's too hard on the canoe, then maybe he'd say ease up and change the course or for safety reasons. But it never did happen or at least we never got into that situation. Probably I'm more cautious than him out in the ocean anyway.

Chris: Cause this time you're going to be sailing in a variety of directions, in all kinds of conditions and much more challenging, I would assume.

Nainoa: It is going to require a lot more on all of us. It is not going to be an easy trip, but we kinda of gotta go or else nothing is going to happen.

Page Sixteen  
NAINOA THOMPSON

Chris: Who are the other people who you think are important for us to talk to? We need to get their sense of priorities in the documentation and media project. . . other key people we need to spend time with. . .

Nainoa: For sure, Gordon, um. . .

Mar: Dixon and Will

Nainoa: Dixon and Will and I would say Mr. Piianaia to get his views as to what happened traditionally. That's very important. Whether he will open up is another question. You can always try.

Mar: I guess that's about all.

Nainoa: I think initially, yeah, until things become clearer about who's doing what and exactly what we are going to do.

Chris: When you say exactly what you are going to do, is it exactly clear yet or when are you going to decide exactly where you are going?

Nainoa: When the documentation is covered for sure. . . when they are going to do it, who is going to do it. . . for real kind you know. I guess that solves it now.

Mar: Yeah. You guys are going to do it, aren't you?

Chris: Well, yeah.

Nainoa: Okay, to tell you the truth that was the biggest problem we had, so far. We've been trying to figure out ourselves how we are going to document this thing and we've been going around and around for one year. Talking about the same ideas,

Page Seventeen  
NAINOA THOMPSON

Nainoa: non-professional who really don't know what they are talking about. And so that's kind of what been holding this project back and not making it public because I was afraid if we make this thing public, and we don't have these things. . . and the committee is saying that we don't document for a larger audience then we are not going. I think it is more important than us just going sailing, so this is just a giant relief that a professional group. . .

Chris: See the other thing we talked about is really equipping members of the Society with documentation skills and learning some of the things so that in the future you will have a group of people that have the basics for making those kind of decisions and can actually coordinate and run their own show. Cause I assume if you have your way this won't be the last trip either?

Nainoa: Hopefully not, yeah.

Chris: That would be an important role that we could play through the institution here and the people that we have imparting some of their own skills and background so another group of people know some of that stuff. Marlene being one of those folks.

Nainoa: Because the documentation is going to be taken care of, I think things can be firmed up real quick, but people been holding back because of that. The whole question of how we are going to make this thing done right and the money, but

Page Eighteen  
NAINOA THOMPSON

Nainoa: people raise a lot of question about the money, but I think it is going to come. So much of it has come already, it is just amazing.

Chris: I don't think the money is the problem unless there was some unfortunate sign of hassles. People started saying it's ours, it's ours. You know what I mean. If it got into that it could destroy the funding. But I think the scope of what is being done and the project itself is potential for funding at any level it needs to sustain it. Part of it is time. If you miss it, you have to wait awhile what kind of problems would that involve?

Nainoa: The weather. I am real strict about the weather. I want to go in the ideal seasonal conditions. Our summer months is the South Pacifics winter months. That's just because we have nominal trades, fair weather, better winds. There are constraints. At first we were going to leave in April, but now because of funding it has been pushed back to May or possibly June. But I told them that if we leave later than June 1 we have to wait another year, and waiting another year is a real drag. I mean for a lot of reasons. . .trying to hold this whole thing together with all these people is going to be really hard. The canoe gets older and weaker. The lashing will have to be redone. So it just adds on a lot more work. So we're really trying to get out before May. But I still say we are going to get out before that. Because they are saying it is the funding problem.

Nainoa: I think if the documentation is clear of what we are going to do and what we are going to achieve and bringing you folks in here, and once they see a professional group involved and want to do it. Then nothing holding back asking for money anymore .

Chris: The money is there. I figure if you don't go out and figure you are going to get it, you won't ever get it anyway.

Nainoa: I guess one of the problems is you're talking to the wrong person. All I know is how to go and steer canoes. I don't know much about how to get a hold of all this stuff.

Chris: What kinds of things are we talking about when it comes to refurbishing the canoe? I mean that's a lot of work, yeah?

Nainoa: Lot of work, but we kind of got it figured out you know. . . The canoe is going to be in better shape than we are.

Chris: That's good. I wouldn't want to go out there without it being in good shape

Nainoa: It's going to be as strong as it has ever been, I think.

Chris: It is the relationship between the environment and the people, out of which comes something that I don't know if it has been really captured. . .



(Conversation about the Navigators)

Nainoa: And Mau isn't considered the best by himself you know, he said if I was to go there to learn, he wouldn't be able to teach me.

Chris: Here we are trying to show, someone growing up in a very technically oriented western dominated world and maybe I wasn't right in saying unlearn some things, because obviously you have the Planetarium and skills, some things that are a great help. But at the same time, what you're doing in some ways, people will say is crazy. Well there is something about the relationship between you and the peoples involved and as you say when the Polynesian people of the Pacific creates a certain. . . some of that is important to document.

Nainoa: And I think the rich history. I think Polynesians, anybody interested realize what was done, the magnitude. They really was the genius of their time. It's not easy this kind of sailing, it kind of scares me once in a while when I think about what we are trying to do. I feel that it is a real celebration of a what went on in this historical past.

Chris: You see any relevance of what it might point to towards the future?

Nainoa: Just makes me internally richer. I don't know. I never looked beyond that. . . more than an impulse than anything else of what I want to do. I never really kind of tied it to what else I am going to get out of it

Nainoa: What am I doing.

Chris: In terms of a people recreating, rediscovering their history.

Nainoa: I hope so. I hope that's what we attempt to do is to get into the hard questions of the problem of really how to we go about really doing it, real honest manner. Because like what I was trying to say before, there's real questions about authenticity, I think about what was done in the last voyages. I think we are taking a lot of small steps, now we are taking the big ones, you know. I shouldn't say that, they look like small steps now, but if you ask me four years ago they are pretty giant.

*(small talk)*

Nainoa: A lot of it would be a person who knows what to look for right? Like an experienced guy. Been on there on a couple long trips.

Chris: That's what I mean. That's a good thought too. Somebody that's been a part of it before that knows what's going to come up and isn't going to be so blown away just by the experience. For instance, it has to be incorporated into the life of the canoe itself. Suppose something comes up. . . at point does somebody stop documenting and start bailing. I mean

Page Twenty Two  
NAINOA THOMPSON

Nainoa: I think teaming up. . .I think we are experts in what we do and with, there is that big gap in the documentation. It's fantastic that you're willing to be part of it. We could go. I could call up guys today with no money, no nothing , just bring your own food and we'll go to the Marquesas and we'll get them guarantee. It's a very strong subject beyond just us.

Chris: Not everybody can go on the canoe, but we can learn something from it.

Mar: I haven't been on the Hokule'a for a long sail, but I feel like I sailed across the world. For everybody the experience is so different. To me, just staying on land and working with all the different people that I do, just to see the canoe sail off, I can't explain it. It's like my soul, my insides , such a happiness, like a crying . . .to me it is like I have been on her and sailed to Tahiti and back. I am sure they are a lot of people who feel like I do. Even members who send in their five dollars a year. . .I mean why do they that?

Nainoa: I think there is a real fear with people I know in the South Pacific, I think there is a real fear of how they are giving up and how fast their culture is being replaced, and the fear is they can't stop it.

24

KHVVH Radio Interview  
with Nainoa by  
Nalani Blaisdell

I: So, how does it feel to be back, Nainoa?

N: Back in Hawaii? Huh?

I: Yes, yes.

N: Well, it's always so good to be home.  
I guess coming home is good when you see that  
you've accomplished what you tried to do. So  
it feels real good.

I: And what was it that you wanted to accomplish  
that you feel you got done?

N: Well, I think historically in Polynesian migration  
this might have ??? doing, the most important one be-  
cause there's always been that debate of how the Poly-  
nesians went from...there are two basic migration  
theories: one is from South America into the Pacific  
from the east because they felt that the only way they  
could sail was with the tradewinds which come from the  
east. And the...but most of the evidence in  
archaeology, anthropology show that the Polynesians  
came from that Western Polynesia area (Tonga, Samoa,  
Fiji area). But the big question was how did they ever  
sail against the tradewinds and the currents that go  
predominantly the other way. And they've investigated  
the other patterns in that area for, for nearly I guess  
three years, I mean they made a decision to try on the  
second commission we had and I think we accomplished  
our goal. We got from Western Polynesia and Tahitian  
Polynesia in eight days.

I: Was eight days sooner than you had expected or was  
it about the same time or was it?

N: Umm. Well, it's hard to say 'cause that leg is so  
dependent on exactly what kind of weather you're going  
to have. Umm. Eight days would have been to me in  
fact, is faster than we could ever consider. We're  
actually--the crew was prepared ahead of time for a 35  
day passage. And if we still didn't make it by 35 days  
then we probably consider going back to Samoa or to  
Tonga. And umm, that would be because we didn't get  
the right winds. But we're fortunate we, we waited  
for the right opportunity and we got in front of that  
weather system and that kind of gave us a lift to get  
across against the trades. Actually the tradewinds  
had broken down, the system broke down and we had  
reversal of the winds for short periods of time.

I: Was that unusual?

N: Not really. I think that, umm, they're called the

nominal(sp.?) system, they happen...they're not the normal tradewind pattern but they do happen. I guess with modern meteorology now and better record keeping through satellites they're just beginning to see how the weather in the Pacific nearly operates since it's mostly ocean and there's no land base stations. And they're finding that there's actually patterns where these winds do reverse. You know one is ahh. Everybody knows now what elnino(sp.?) is an elnino situation, it's completely different. It's just a displacement of the regular...what the systems and they do occur some meteorologists say once every 10 years or so but that's really kind of premature to say how often they do occur. But these things actually do happen.

I: So these reversals are actually something quite, the discovery of these reversals is actually something quite recent?

N: Umm. I would say that yeah it's put down in record form with my ??? meteorologist. But they're getting a better understanding of it now. I mean, the old sea-faring ships knew of them, I'm sure. And they had the power charts that are records of ship reports for hundreds of years that show that there's these variabilities in the wind. But those observations I made are only on one point on the earth, now with satellite. With satellite tracking, they can see how these large systems operate and they are, they are very large wind systems that tend to break up the trade wind field. And uhh, I just like to get more understanding, not necessarily being aware of it.

I: Ah, thank you for clarifying that. There were times during the reports from Will Kyselka when it looked as though you were very close to Aitutaki but weren't able to see it. You must have known in a sense that you were near, but according to Kyselka you were being slowed for making headway by the heavy wind. How did it feel at that time?

N: Uh, well we didn't really know. I mean, the... because my what they call my dead reckoning where I thought our position was really quite far off. And umm, I thought we were farther to the west than we really were. And so the only sign that we did see 'cause there's heavy squall lines that day and the visibility was less than a mile in some of the squalls and even at the best I think the best we could see and completely recall a full day, but maybe only 10 miles and the...but we did see a lot of rubbish and uh, in the water the day that we were to the down wind by Tutaki and I kind of played it

down because that evidence because I thought we were farther to the west. Farther away than we really were. So, umm visually we wouldn't have been able to see the island because the umm, condition of the atmosphere and because I thought we were farther west. I just didn't really want to make umm, any of us feel that we had any real hopes of being that close.

I: So, you think that what you try to do sometimes is uh, if you're not quite sure that you're near line, you don't want to give--you don't want to give false hopes to the crew.

N: Right, right, I think they can be quite disappointing when you give a positive estimate then you're wrong. And umm, it kindly to remember that nobody really knows where you are exactly and the navigators know the best and they're dependent on the information that the navigator gives them. So, umm you have to be careful what you say.

I: So, sometimes the navigator will know more than the navigator will tell the crew?

N: Yea, (he laughs). I don't know if I should say that over the radio, but yeah, I have to reflect on what you say. 'Cause there is always a certain amount of doubt in your estimates because you're dealing with a system that doesn't uhh, you're dealing with a system that your position is given by your observations and your memory of those observations throughout the trip. So along with the leg, the more chance for error and ???, the more chance for error. Umm, and umm, if you're dealing only in your observations and umm, the human factors will become involved like uh the fatigue and the time that you sleep, you miss and things and just umm, when the ocean was rough like it was. It's very difficult to tell speed and it's very difficult to tell exactly what direction you're going, you're getting more or less thrown around by the ocean.

I: Were the oceans rougher than they were on any other leg?

N: Umm, ??? strong winds they've had, because the winds were changing so much that uh, it built a large swell from a lot of different directions so how do I put it, the weather basically strong was basically from the east and the southeast but there was a very large southwest weather was generated from some place like I imagine near New Zealand, so the swell conditions was quite irregular, chaotic almost and the canoe had a hard time dealing with all these uh different kinds of wave patterns, wasn't a smooth wave pattern like we've

had in other storms where the winds stayed in one direction and developed one swell, and the canoe can deal with that a lot better than with swells from a lot of different directions, so really we didn't have the strongest winds but I think out of all the times I've sailed it was the most confused sea, it was very hard on the canoe.

I: Hard on the canoe, and hard on the crew as well?

N: Right, hard on the crew. It was umm, night time and we all had to strap down with safety harnesses, even just sitting on deck because the canoe was getting thrown around so much.

I: So, that's physically. How about mentally?

N: Umm, well I guess the best way to put it, when you have nice, fair weather sailing and it's umm, and things are easy on you physically, then mentally it's easy too. You have umm, you're able to rest and you're able to have more control over the situation. When it's rough like that and uhh, and it's wet like that, it's uhh, physically it's demanding and therefore it becomes mentally demanding to, because of the fatigue and uhh, also the element of umm, uncertainty in those kind of conditions because it's really hard in the canoe. And there's a certain amount of factor of fear and then that fear you need to be alert and being so intensively alert sometimes it makes you more tired mentally.

I: Do you think umm, ??? unusual overall than some of the other legs?

N: I guess it's not a real good word. No, I don't think it played a role in much of anything. The crew members we had on board, basically they put together a very experienced crew umm and they've been there before. And they know how to deal these conditions, they...I think the, I think there may be an element of fear but not umm, it's quite controlled. These members on board make the canoe go well. These experienced crew members and they're the ones that really have a lot to do with the success of the voyage. And umm, I think that whatever fear they have they control it but it's more a respect for the sea. Respect for umm, how demanding the ocean can be and they just basically come with prepared minds. They're ready to go to sea, they know what they can expect and umm they deal with it very well.

I: It must be very demanding for them to go and come back and have to go to work. What do most of you on

crew do?

N: There's, uhh, this particular crew has umm, an architect, a boat skipper, and a guy works in construction, a fireman and on and on and on--all walks of life.

I: And how many of you were there this time?

N: About eleven. There were eleven crew members.

I: All are back in Hawaii, now?

N: No, only umm,

I: Only six?

N: Six came back today and the other five are still in Aitutaki. The island that we left the canoe in.

I: And that's Rarotonga?

N: No, Aitutaki is an island north of uhh, Rarotonga. The escort boat sustained some damage and we pulled into that island for safety reasons.

I: The escort, the Dorcas?

N: Right.

I: And so, when is Hokule'a's next journey?

N: I'm not sure right now. Because, umm. I'm not sure right now because umm we were scheduled to go on August 29th for the next leg but nobody expected us to get there so fast. So, we'll probably try to push up the schedule in the next couple of weeks. I need to find out what the umm the situation is with the next crew members who are going down--if they can get the time off that early. So umm, I just got home, I need to find out what the situation is with the new crew members.

I: So, you must be very tired, and the next leg will go to where?

N: It'll go to Tahiti. Rarotonga and Tahiti is quite a bit of history between those two islands. And so this next leg is umm. Has two purposes: one is it's still going to investigate the upland capabilities of the canoe--to get up against the tradewinds--to go east into the dominant trades and also to umm, to investigate the notion that there is two-way voyaging between Rarotonga and Raiatea or the old name is



Awaiki which is near Tahiti and they say that two-way voyaging implies that there's umm, umm navigation, person navigation between the two islands.

I: So, basically the whole thing, one of the whole things is negating the drift, the drift theory?

N: Yeah, I think so. I think umm, yeah, the drift theory I don't accept. Umm, the drift theory is kind of of like aimlessly, helplessly floating across the Pacific bumping into islands. I think what our voyage is trying to do is show that, that in our oral history, or history what is retained in the island groups, some of them believe that there is person navigated routes. And then the other routes we're sailing may have just been voyages of discovery--that they went out found an island and never did return, so didn't imply that they navigated between the two but both of those ideas are in contrary to drifting around aimlessly.

I: Congratulations! How does it feel, how do you think all you, you and the rest of your crew members feel now, just besides tired?

N: Well, everybody's tired and everybody's glad to be home. And I think that like I was trying to say earlier that umm, there's quite a bit of risk involved in doing this leg and umm and everybody knew it that if we had failed at getting to the east, then it would give evidence to more of the theory that Polynesians could not have sailed into the tradewinds or to go east from Western Samoa. So that would have defeated what we were trying to do. But since we did, we were successful in such a short time. But showing that you can umm, sail with these wind reversals or anonymous(sp?) wind patterns, I think that everybody's quite proud of what they had accomplished on the canoe. That goes way beyond any kind of fatigue or.....

I: Thank you, Nainoa. I think we're all pretty proud of everything Hokule'a did and I really appreciate your calling and taking the time to talk to us.

REPORT # \_\_\_\_\_ Day \_\_\_\_\_ Rise/set \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

1) Course: Line: \_\_\_\_\_ Isle direc. \_\_\_\_\_ Dist: \_\_\_\_\_

Sail Section # \_\_\_\_\_ Sail day \_\_\_\_\_ Trans.day \_\_\_\_\_ Curr.+/- \_\_\_\_\_

2) Latitude: \_\_\_\_\_ Clues: \_\_\_\_\_

3) Direction: \_\_\_\_\_ Average Course \_\_\_\_\_ Present Course \_\_\_\_\_

Course made good: \_\_\_\_\_

Speed over water: \_\_\_\_\_

Land Clues: Birds: \_\_\_\_\_ Swells: \_\_\_\_\_ Clouds: \_\_\_\_\_

Notes: \_\_\_\_\_

4) Weather: Wind speed \_\_\_\_\_ Direct. \_\_\_\_\_ Beau Force \_\_\_\_\_

Cloud: Low \_\_\_\_\_ % cover \_\_\_\_\_

Types: Mid \_\_\_\_\_ % cover \_\_\_\_\_

High \_\_\_\_\_ % cover \_\_\_\_\_

Total % cloud: \_\_\_\_\_ Precip: \_\_\_\_\_ Lightning: \_\_\_\_\_

Sea State: \_\_\_\_\_

Condition of swells: \_\_\_\_\_

Weather changes and Remarks: \_\_\_\_\_

5) Canoe status: \_\_\_\_\_ Pt. \_\_\_\_\_ Trim \_\_\_\_\_ Sail type \_\_\_\_\_

Notes: \_\_\_\_\_ Main: \_\_\_\_\_

\_\_\_\_\_ Mizzen: \_\_\_\_\_

\_\_\_\_\_ Tri Sail: \_\_\_\_\_

6) Events: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# POLYNESIAN VOYAGING SOCIETY

BOX 19000-A / HONOLULU / HAWAII 96819

Dear Sir:

Basically, we hope to sail more west than south west for the first half of the voyage so as to stay well within the boundary of the south east tradewinds and also to avoid the westerlies with a course approach from the east.

Once we estimate our position to be near north of North Island we will change our more westerly course to a southerly one. This strategy will most likely put us in a better position to sail on the westerlies.

Also, a westerly approach from 28 deg. south to North Island is the shortest distance thru the transition zone between trades and westerlies and the likelihood of south west gales from the the Tasman Sea, as well as to cut down on the amount of days that we will be in the higher latitudes and colder climate.

Adverse directions of the wind, formation of tropical cyclones and other unusual weather conditions could alter us from the two sail courses. (see enclosed map)

Course: The map indicates the two general course plans that will most probably be hed. Which one that will be actually chosen will be determined by weather conditions during the voyage. These courses are based on the average weather conditions (climatology) and that we may deviate from the course if the weather forces us to.

. I thank you for your help.

Ma'halo,

Nainoa Thompson  
Navigator - Hokule'a



# POLYNESIAN VOYAGING SOCIETY

BOX 19000-A / HONOLULU / HAWAII 96819

October 28, 1985

Commodore Auckland  
Royal New Zealand Naval Base  
Devonport, Auckland  
New Zealand

Dear Sir:

On behalf of the Polynesian Voyaging Society, I would like to thank you for your support and assistance.

Enclosed you will find the sail plan of Hokule'a, and message from our navigator, Nainoa Thompson, detailing the sail.

If you have any questions, please call me collect [REDACTED].

It is comforting to all of us here in Hawaii that you will be participating in Hokule'a's Voyage of Rediscovery.

Me ke aloha pumehana,

*Marlene*

Marlene Among  
Assistant to Myron B. Thompson, President



VOYAGE OF REDISCOVERY

October 23, 1985

MEMORANDUM

TO: Pinky Thompson  
FROM: Bob Worthington *Ken*  
SUBJECT: Royal New Zealand Navy "Shadowing" Program

The Royal New Zealand Navy has proposed to "shadow" the Hokule'a during its Rarotonga-New Zealand leg. After two days departure from Rarotonga the Hokule'a will be under daily "shadow surveillance" by a Hercules and/or two Orion planes. In addition, New Zealand surface vessels also will monitor the whereabouts of the Hokule'a.

The Commodore Auckland of the Royal New Zealand Naval Base will provide use with written communication outlining in more detail the "Shadowing" of the Hokule'a.

It has been suggested that Nainoa submit a proposed sailplan to the Commodore Auckland. This will assist the RNZ Navy in their efforts to provide the Hokule'a with safety communications system.

The sailplan should be addressed to:

Commodore Auckland  
Royal N.Z. Naval Base  
Devonport, Auckland  
New Zealand  
PH - 09-452211

44

NAVIGATOR'S RESPONSIBILITIES - JUNE 3, 1985

1. Determines total Sail Plan
2. " time and place of departures
3. Directs daily sail to make landfall as determined in Sail Plan. This responsibility ends with the first sighting of each landfall.
4. Directs use of all steering capabilities of the crew and vessel including the following:
  - A. Set and trim sails
  - B. Location of mast steps
  - C. Use of steering paddles and sweeps
  - D. Choice of sails to be used
  - E. " " crew for steering requirements
5. Seeks advice from Mau as needed
6. As primary documentor -- produces raw data for scientific publication of the way-finding experiences:
  - A. In consultation with Dixon Stroup and Ben Finney design documentation program
  - b. While at sea, at predetermined times, record verbally to a designated crew member pertinent navigational data
  - C. In between legs and after cassette transcriptions by KHET-TV, consult with Dixon who will write an article for publication. Ben will serve as editor.
  - D. For six months following the return home in 1987, consult with Dixon and Ben in the production of a final document.

# SOUTH PACIFIC - Air fare

NO. Days	1985	MAR-April	Flight	Cost	Cost
4		Honolulu - Tahiti	1001028	(90x4)	360
7		Tahiti - Mangueas	200 277	(90x7)	630
3		Mangueas - Tahiti	200 277	(90x3)	270
6		Tahiti to Rarotonga	300 300	(50x6)	300
6		Rarotonga - Samoa	300 230	(90x6)	540
		Samoa - Honolulu	40 604		
26			1800 2716		2100

4816

1985 JAN.

6	Honolulu - Auckland	6x50	646	350
6	Auckland - <del>Honolulu</del>	400	646	
		900	1292	350

TOTAL - \$ 2,700

Grants to total

Airfare / PD  
Research / Training  
etc.

6458  
10,325  
16,783

intend 9,700.00

# Budget (1984-1987)

A) Research material

\$ 300.00

B) Publications

included 3,100.00 (Donations)

C) Ocean study

\$ 9,000.00  
included 6,600.00 (Donations)  
2,400.00 (Net)

D) Inter Is. Airfare

90  
225.00

E) Contingency

300.00

Total (exclude air fare to South Pacific) 13,425  
Donated → 9,700  
(NET) 3,725

131,880  
37,880  
94062  
26,880

11,500  
13,425

101,942  
90,962  
10,980

13,425

10,326  
- 6,458  
3,868

included 9,700.00



## NAVIGATION Research Budget:

### A) Organization of Theoretical Research material:

1) Paper, Notebooks, Pencil ect.	50.00
2) Filing material	150.00
3) Cassette recorder, Tapes	120.00
4) XEROXING	100.00
5) Nautical charts	100.00
6) Resource Books and material	130.00
7) FILM 35 mm Nikonis	150.00
	<u>800.00</u>

### B) Planetarium Research and Training Sessions:

1) NAVIGATION Research (50 hrs)	2,500.00
2) NAVIGATION crew Training (12 hrs)	600.00
	<u>* 3,100.00</u>

### C) OCEAN STUDY:

#### 1) USE OF RADON (\$8.00/hr fuel)

NOV. - 10 hr/week = 40 hrs.	\$ 240.00
DEC - 20 hr/week = 80 hrs.	\$ 480.00
JAN. - 20 hr/week = 80 hrs.	\$ 480.00
FEB - 10 hr/week = 40 hrs.	\$ 240.00
MAR. - 10 hr/week = 40 hrs.	\$ 240.00
APRIL - 20 hr/week - 1 wk = 20 hr	\$ 120.00
300 hr	<u>\$ 2400.00</u>

\* \$22.00/hr operational/operation costs waived = 6,600

#### D) 3 Round trip Intn-Isa (Hawaii) in 1987 @ 75.00/trip

Contingency \$ 300.00

#6 Item

TO: Board of Directors of the Polynesian Voyaging Society

FROM: Nainoa Thompson

SUBJECT: Hokulea Voyage between Hawaii and New Zealand

A round trip voyage between Hawaii and New Zealand at a minimum would take one year. The basic reasons being the actual geographical location of these two island groups and the reversal of the seasons of the different hemispheres. If the entire voyage is to be completed non-instrumentally it will be an extensive undertaking. New Zealand is the only major polynesian island group that lies outside of the Tropics. It's wind and ocean systems are not necessarily the same as what you would find in the areas of the Tropics that are characterized by the Trade winds.

What we need to bear in mind is that there is much to learn and that solid planning is essential for a successful voyage.

Before we can realistically develop a solid and complete plan the P.V.S. should first complete a feasibility study. Such a study would produce a theoretical sail plan for the round trip voyage. This study would only concern itself with the practicality of physically sailing Hokulea to New Zealand and back. This theoretical sail plan would describe the probability of what it would be like given the performance characteristics of Hokulea and climatology, oceanography and astronomy data to sail on the proposed route. A basis for this sail plan would be gained from resource people and information here in Hawaii. The next step would be to send myself to New Zealand for the following reasons:

- 1) To meet and to talk to resource people in the area who know the ocean and the weather through their own experiences.
- 2) To study the stars of that Latitude, to gain the clues needed for the navigation.
- 3) To make contact to the appropriate groups of people there to let them know of our intentions and work. To especially find out what their feelings are about what we are trying to do. To see what their reaction is and what they feel their involvement may be.

Once all of this is completed, and the feasibility finds that such a venture would be possible then I feel we have the basis to begin an overall plan that encompasses all the aspects of such a voyage.

Budget:

Airfare to New Zealand (round Trip)	1,393
Traveling expenses: 14 Days \$25/Day	<u>350</u>
	1,743

MEMO

TO: PVS Board of Directors

FROM: Nainoa Thompson

(1.)

SUBJECT: On-going work for 1983

*NT* The following is a list of work that is now in process and will, hopefully, be completed by the end of this year.

- 1) sea trials of Hokulea
- 2) canoe performance and capability tests
- 3) satellite analysis of the navigation process on board Hokulea on the 1980 voyage
- 4) inter-island educational sail
- 5) theoretical sail plan for a round trip voyage between Hawaii and New Zealand

2/25/83

55

MEMO

TO: Board of Directors, P.V.S.

FROM: Nainoa Thompson

SUBJECT: Captain's List

I recommend that the Board of Directors of P.V.S. reinstate the Captain's list. The list would name qualified individuals who would be capable of serving in the role of Captain of the Hokulea. I feel it is important that individuals with the ability to take command of the vessel be given the opportunity to do so. (The more people involved in the sailing process, the more Hokulea will be able to sail.)

I am not implying that all of the individuals suggested are qualified to captain Hokulea on extended voyages or even inter-island. Listed are individuals I feel could be qualified captains given that their geographical sailing areas limited to their own experience. This list is based on the individuals' sailing experience on Hokulea and their past leadership roles in sailing Hokulea.

Item (21)

Snake Ahee  
Chad Babayan  
Shorty Bertlemann  
Wally Froiseth  
Herb Kane  
Kawika Kapahulehua  
Buff Keaulana  
Dave Lyman  
Kimo Lyman  
Gordon Piianaia  
Norman Piianaia  
Leon Sterling  
Nainoa Thompson

accept recommendation  
of above  
Wally

What process is needed  
Notify these men

Board should  
Nainoa - feels best qualifications

- Canoe committee / then Board for process

2/10/83

1983 Expenditures for the Polynesian Voyaging Society  
from 1/22/83 to 2/24/83:

Quantity	Item	Cost
1	cable, crimps, labor change	\$ 5.70
2	master locks	10.36
1	electric light (distress signal)	<u>48.57</u>
1	* very pistol and flare kit	75.85
4	* hand held orange flares	12.09
1	* anchor light	41.31
1	* pack red hand held flares	12.90
2	* 2-D cell flashlights	8.42
1	* distress flag	9.10
9	* 24 mm red flares	53.45
1	* air horn	11.59
1	* air horn spare cannister	1.44
1	* 30ft. 5/8 dacron line	20.96
?	* ?	21.17
	taxed items (*)	10.73
4	nautical charts (on sale)	15.30
1	tide chart (on sale)	2.25
	tax	.70
1	pair dividers	6.35
1	pack index cards	.54
1	plotting triangle	3.05
	tax	.40
1	set flashlight bulbs	1.29
1	set flashlight bulbs	1.29
1	set flashlight bulbs	1.29
1	set flashlight bulbs	1.29
1	super glue	2.59
1	epoxy set	3.20
	tax	.44
1	silicon lube	2.95
1	can L.P.S.	3.39
1	can L.P.S.	2.39
	tax	.35
2	fuel hose kit	26.00
6	lantern batteries	17.94
4	"D" cell battery	4.36
2	duet tape	4.38
	tax	1.07

3	Type I fire extinguisher	\$ 50.97
	tax	2.04
3	ammo cans	35.64
	tax	1.43
3	cans WD 40	5.67
1	wrench set	11.99
1	IGW wrench set	15.99
1	wrench	5.99
1	screwdriver set	14.99
	tax	2.19
2	6 gal gas tank	53.80
1	Danforth tape	3.95
1	S/D bell	19.39
2	bee's wax	1.50
2	sail palm	9.38
1	roll thread	2.78
2	needles	.52
2	needles	.42
2	needles	.72
1	case 2 cycle oil	60.48
	tax	6.11
2	6 volt flashlight	11.84
1	15' 3/4" dacron rope	14.25
1	10' plastic tube 3/4" diam.	9.90
	tax	.32
1	roll whipping line	4.05
1	roll whipping line	3.90
	tax	.32
2	gas tank fittings	9.00
2	Jerry jug caps	6.00
39	litres gasoline	15.00
4	life preservers	48.33
1	combination navigation lite	18.81
1	log book	7.44
1	single block pulley	6.21
1	ammo box	8.20

Total cost of equipment and supplies as  
of 2/24/83: \$ 916.42

Please reimburse Nainoa Thompson this amount.

58

On Saturday, February 12, 1983, Mr. Remington from the Coast Guard Auxiliary inspected Hokulea. He gave Hokulea a signed document stating that the vessel has passed all federal safety requirements for a vessel of its class and characteristics. This document is pasted on board.

Major cost items still deficient (estimates costs):

1 forward sail (spare)	\$ 300.00
225' 5/8 dacron line	168.75
new engine (40 hp outboard)	<u>2,000.00</u>
	\$ 2,468.75

*Not paid for*

An annual fund will need to be available for maintenance of the vessel. Estimated costs are unknown.

I recommend that P.V.S. consider presenting a gift to AMFAC for their contribution of drydock space and another to KEMS Electronics (Roy Yee) for the use of the radio and EPIRBS. AMFAC and KEMS have really helped defer a lot of costs.

Sincerely,

Nainoa Thompson

*Budget:*  
*plus \$916.42*  
*cost to replace rigging*

*Item #3a*

February 3, 1983

*Item #26*

MEMO

TO: Board of Directors  
Polynesian Voyaging Society

FROM: Nainoa Thompson

The following is an inventory that I feel is needed aboard Hokulea to complete the commitment of the Inter-island sailing project. Information was obtained from Coast Guard Recommendations submitted to PVS on May 3, 1978, a memorandum submitted by Leon Sterling on August 3, 1978, the Captain's check list, and the new Federal Safety requirements effective January 1, 1981.

In order to get Hokulea in and out of harbors and through the wind shadows of the Islands, we need an adequate engine on board or vessels to tow. I recommend that PVS purchase an adequate engine prior to the inter-island sail.

*Recommendation that we need  
Acron Line  
Engine  
Sail*



# Safety Equipment

<u>Quantity</u>	<u>Item</u>
2	EPIRB
17	Type II C G approved life preservers
2	10# Co2 Tri Class extinguishers
10	Safety harness
1	Air Horns with spare cannisters
1	Whistle ) see annex 3 Inland Rules 1980
1	Bell )
2	Signal Mirrors
1	Man overboard Pole with Flag
2	Life Rings 30" diameter
6	Police Whistles
1	Radar Reflectors
2	Sea Anchors with Line
2	Anchors
2	20 ft. Anchor Chain
2	Anchor Line 5/8 minimum 400 ft.
4	Fixed hand Bilge Pumps (P+STD 1+7)
1	Portable Hand Bilge Pump
1	Plastic Cover 15' sq.
6	Air Mattresses on non-absorbent Foam Pads
1	Canvas on Plastic Tarp 20' sq.

### Lights

Quantity	Item
1 set	Side Lights (10 pt.)
1	Stern Light (12 pt.)
1	Mast Head Light (20 pt.)
1	Anchor Light 32 (pt)
2	6 volt flashlights
2	3 cell flashlights D cell
2	Man overboard Strobe Lights
8	Hand Held Strobe Lights (firefly)
18	spare batteries D cell
12	spare batteries 6 volt
12	spare batteries firefly
	spare bulbs

### Radio

1	VHF Radio and Receiver
1	Marine VHF Antenna - Shakespeare
2	12 volt batteries
2	Battery boxes
1	Radio Box

### Engine

2	Gas Tanks (6 gal.)
2	Gas Cans (6 gal.)
2	Gas Hose
1 set	Engine Tune Up Kit
2 tubes	Leg Oil
1	tool kit
1	Spare Propeller
1 case	2 cycle Oil (quarts)

# Visual Distress Signals

Quantity: No.#	Item
1 (160.072)	Distress Flag
1 (161.013)	Electric Distress Light
6 (160.021)	Hand Held Red Flare (Oct.1,1980, date of Manufacturer or later)
4 (160.022)	Floating Orange Smoke (.5 min.)
6 (160.037)	Hand Held Orange Smoke
6 (160.036)	Red Parachute (self-contained)
	(very Pistol)
12 (160.066)	Red Ariel Flare (24mm Meteor)
1	Very Pistol
6	Marker Dye

# Navigation Gear

Quantity	Item
1 set	Required Chants
1 set	Plotting Equipment
2	Compass - hand held

# Miscellaneous Safety Gear

Quantity	Item
1 set	Spare Sails
1 set	Mask, fins snorkel
1	Surfboard 12 ft.
1	First Aid Kit
1	Towing Bridle
1	Towing Line
(46 available)	Water Jugs (5 gal.)
1	Taft Log
1 set	Coast Guard Pamphlets
1	Certificate of Number +
1	Validation Sticker
6	Buckets/Sponges
8	Foul Weather Gear

Sail Kit

<u>Quantity</u>	<u>Item</u>
6	Needles
2	Sail Palm
2	Bee's Wax
1	Roll Thread
2	Roll's Whipping Line

For inter-island sails Hokulea will need a minimum of cooking and sleeping gear. These items need not be obtained till another date.

69

February 3, 1983

MEMO

TO: Board of Directors  
Polynesian Voyaging Society

FROM: Nainoa Thompson

Subject: 1983 Sail Plan

The following is a tentative proposed sail  
plan for 1983. I would appreciate your considera-  
tion and recommendation for approval.

65

Item (4)

1983 HOKULEA SAIL PLAN

1) Sea Trials and Canoe Performance Research: Feb. 6 - March 27.

Objectives:

- A) Sea trials are to check out Hokulea's condition at sea and to do final preparations for the inter-island Educational Sail.
- B) Canoe performance research will be conducted by Dixon Stroup and Richard Rhodes. The product of this research will be a technical report that numerically describes the sailing characteristics of Hokulea.

Implementation:

Every week-end, weather permitting, we will sail Hokulea with a minimum crew of 7 to carry out the above described work.

Budget:

Fuel and miscellaneous costs are estimated to be \$20.00 per sail. A maximum of 15 sails are planned during this period of time. Estimated cost: \$300.00

2) Inter-Island Educational Sail: April 2 - May 14.

Tentative Schedule:

Honolulu to Manele, Lanai  
Manele to Kailua, Kona  
Kona to Kawaihae  
Kawaihae to Hilo  
Hilo to Maale'a  
Maale'a to Kaunakakai  
Kaunakakai to Oahu

Weekend of:

April 2  
April 9  
April 16  
April 23  
April 30  
May 7  
May 14

A complete project description is available in the "Project Aukai Grant".

3) Extended Sail to Nihoa Island during month of July.

Objective:

Nihoa may have been the farthest outlier of the islands inhabited by ancient Hawaiians. Sailing there will give us better insight into the people who did venture to such a small, isolated island. It will be an opportunity to practice "deep water" navigation and sailing skills. It would be a very rewarding experience to go to such an untravelled island.

Implementation:

A crew of a minimum of 11 people will provide their own personal belongings as well as a fair contribution to the food and stores.

Estimated Sail Plan:

Honolulu to Nihoa	2½ days
Lay-over on Nihoa	2 days
Nihoa to Kauai	5 days
Kauai to Honolulu	4 days
	<u>14 day trip</u>

Budget: Approximately \$500.00 (will depend on the condition of Hokulea after the inter-island sail.) Will need to obtain a radio with long range capability.

- 4) Sea Trek (Marine Program)  
Months of September to December. Hokulea will be moored at Heeia Kea.
- 5) Annual Maintenance.  
~~Months of~~ December through February. Budget: Approximately: \$1,000. (include this item for Cause Budget)

It is understood that this is tentative  
m/s report subj to Nihoa. m/s sail plan  
cost:

+ permission because it is a *penitentiary*

*ask fishing boat for anchorage*

*or someone*  
*Oliver will check w/ V.H. if anyone*  
*going to Nihoa*

*Committee: for planning*

*Wally*

*Nainoa - navigation*

*Oliver*

*Cecilia - research/history*

*Nike*

*1) out \$900*  
*2) new engine w/keel*  
*daeron*  
*Shoah*  
*forward sail*

*\$1,000*

# HOKULEA SAIL PLAN

January, 1983	Repairs
February	Sea Trials/Canoe Performance Research
March	
April	Inter-island Sail
May	
June	
July	Nihoa Extended Sail
August	
September	Sea Trek
October	
November	
December	Repairs/Maintenance
January, 1984	
February	



*Item  
(5) discuss it at next meeting*

TO: Board of Directors, Polynesian Voyaging Society  
From: Will Kyselka and Nainoa Thompson  
Subject: Existence Statement of the Polynesian Voyaging Society  
Notion

Hokulea has completed nearly 10,000 nautical miles of sailing after its launching in 1975. Two round-trip voyages to Tahiti are among its accomplishments, a test of the Kealaikahiki route, and extensive sailing around the islands. It has survived two swampings and performed well in adverse weather conditions.

Hokulea is a concept that has captured the imagination of many persons who have put in thousands of hours into the construction, care and sailing of the vessel. Embodied in the design of this vessel is an accumulation of knowledge of the ways of the sea by Polynesians of ancient times -- a design evolving over generations of time. That knowledge is continually revealed to us as we sail the vessel over ancient routes.

The Society can strongly assert its existence by producing a journal or anthology of our knowledge and experience in Polynesian seafaring. Various points of view can be expressed by those who have has experience with the vessel, with its construction and performance, its sailing and other activities that are related to ancient seafaring.

The Society has within its potential the greatest amount of resource information on the subject of Polynesian seafaring -- a canoe, a research component, a great deal of experience in sailing the vessel.

Goal

PVS produce an anthology. A complete and concise document on the subject of Ploynesian seafaring, the survival of an oceanic race.

Objectives

Pull together the resources and resource people who have within the last nine years worked and sailed on Hokulea to write individual chapters on their particular research and experiences about the above subject.

Where there are any aspects of Polynesian seafaring that are not covered within this resource pool, PVS should enlist authorities from

other sources such as the University, the Bishop Museum and the community at large.

Where in the past experience of sailing Hokulea we have not completed research on various aspects of Polynesian seafaring, PVS should plan to complete such work on another long distance sail.

#### Implementation

Select a list of topic areas that could present and express the work of the PVS and the subject of Polynesian seafaring. The following is only a suggested list:

1) History of the Polynesian Voyaging Society

- 1968 creation of an idea
- 1974 construction of the vessel
- 1975 training - inter-island
- 1976 voyage - Hawaii-Tahiti-Hawaii
- 1977 Kealaikahiki - inter-island
- 1978 voyage - Hawaii-Tahiti
- 1979 training - Hawaii-Tahiti
- 1980 voyage - Hawaii-Tahiti-Hawaii
- 1981 Kauai sea trek
- 1982 repairs
- 1983 canoe inter-island performance/Nihoa?/sea trek

2) Migration of people through the Pacific. Who, when and from where did the Polynesians come? Evidence from the view point of:

- a) archeology
- b) botany and zoology
- c) linguistics
- d) translation of chants and legends
- e) history
- f) anthropology

3) The physical environment of the Polynesians from the point of view of the sciences:

- a) geography
- b) oceanography
- c) meteorology
- d) astronomy

3) The Arts, ancient man, his creativity and his achievements

a) The Canoe

- 1) design
- 2) construction
- 3) sailing capabilities
- 4) sailing methods
- 5) the art of a culture

b) Navigation

- 1) the natural environment, the potential to guide mariners
- 2) the notion that the senses of people close to nature are sharper and more extended than the ones who do not exercise them as much
- 3) the ancient religion, the ancient power

c) survival at sea and colonizing new lands

- 1) nutrition
- 2) transportation of plants, food and animals
- 3) ocean as a food resource (fishing)

4) History: "thought and ideas"

a) ability to travel the Pacific

b) an ancient sea story

- 1) the ones who sailed
- 2) the reason to sail
- 3) the life of the ancient sailors

The above are just ideas. Ideas need to be improved on. Much of the work that we speak about can only be inferred but the PVS is in the best position to do that.

Abstract

Through Hokulea many people involved themselves in a better understanding of the past, a step into a larger understanding. PVS has within its combined capabilities and resources has become, due to its own experience in research and sailing, the most knowledgeable on the subject of ancient Polynesian seafaring.

Hokulea and the people who kept her sailing have accomplished a lot. We feel that PVS should put forth these accomplishments. The anthology is an ideal opportunity to allow resource persons who have invested a part of themselves to express and share their knowledge.

It is a way of pulling together and consolidating these people's efforts. Further sailing allows for further research into potential areas not yet explored.

Without listing names, there are the people around in Hawaii, whether they are in the Society or not, who could contribute to producing such an anthology.

PVS has within its Western capacity the ability to tell parts of the story of ancient Polynesian mariners. If such a story is a worthwhile one, then PVS should tell it.

We suggest to the Board of Directors of the Polynesian Voyaging Society that it discuss and consider our proposal. We would appreciate a reponse as soon as possible.

2/25/83

#### THE NAVIGATIONAL SAIL PLAN

The truest approach to an understanding of traditional navigation is through the practice of traditional sailing. Within the means of the Polynesian Voyaging Society is the canoe, Hokule'a, the sailors and the accomplishments of the 1976 and 1980 voyages.

This proposed sail plan is to further the knowledge base and the understanding of traditional navigation.

Each of the proposed sailing legs has its own unique navigational experience. There are no two legs that are similar in terms of the course, the sailing strategy and targetting land-fall. The act of such sailing experience is an exercise in both the science and the art of traditional navigation. The completion of such a voyage would bring a respect deserving of the accomplishments of ancient Polynesian mariners.

The maps illustrate the general sail plan of the proposed voyage. The plan is based heavily on the most practical and safest way to sail through the major island groups of Polynesia. Keep in mind that it may have taken the early Polynesians 1,000 to 1,500 years to accomplish what we want to partially replicate in 2 1/2 years -- not an easy task by any means. The individual sailing routes and their respective time frames are based mainly on research into climatology and information gained from individuals who have sailed within the Pacific area.

The general plan is subject to adjustments as the logistics of the overall plan evolves.

Nainoa Thompson  
2-5-84

### 1985 Navigational Plan

The preparation for the navigational components of the voyage will be accomplished in the following steps:

1. Finalization of the sail plan
2. Memorization of the course for each sailing leg:
  - a. star bearings
  - b. star bearings for course deviation
  - c. distance, estimated speed and distance for course and deviation
  - d. overall course stragedy
  - e. tacking stagedy
  - f. targetting stragedy
3. Star study at planetarium
4. Ocean study on Hokulea and power boat
5. Study land stars
  - a. at planetarium
  - b. on various islands in South Pacific
6. Work with Shorty, Chad and hopefully Steve Somsen on the course bearings to help the steering
7. Final preparation to practice and memorize the day and nightprogressios and the rise and set of the sun and the moon.

Hopefully if Mau's sons participate in the voyage they will be able to also participate inthe navigation.

To finalize the sail plan we are taking five major steps. The first two steps have already been completed.

The first was to collect climatology data from five separate sources. The second was to talk to knowledgeable people who have sailed in the region of the Pacific that we are investigating.

The remaining steps to be taken to finalize other specific areas of the sail plan will be:

1) research in the local areas that we will visit.

A. Resources

1. food and fresh water
2. power and supplies
3. tools and equipment
4. dry docking
5. moorage

B. Geography

1. type of island
2. characteristics of reefs, passes and lagoon

2). Weather data

A. Accumulate information from the various weather stations on different islands to help describe better the local conditions.

3). local resource People

A. Make contact with knowledgeable people who know about the ocean area near their islands, local winds, currents, uncharted reefs, the easiest way to approach the islands, etc.

The proposed sail plan has been studied thoroughly in terms of the general wind patterns. It can be concluded that the suggested sailing legs are both logical in progression and feasible in practicality. The months of the year that we will be sailing each of the particular legs pose the best winds and least risk of gales and tropical cyclones.

Therefore, for logistics and planning purposes, this is generally the final plan.

Nainoa  
Feb. 19, 1984

list -  
who to contact  
local resource  
local wind  
Tides notes -  
currents -

REPORT #\_\_\_\_\_ Day\_\_\_\_\_ Rise/set\_\_\_\_\_ Date\_\_\_\_\_ Time\_\_\_\_\_

1) Course: Line:\_\_\_\_\_ Tahiti direc.\_\_\_\_\_ Distance \_\_\_\_\_

Sail Section #\_\_\_\_\_ Sail day \_\_\_\_\_ Trans.day \_\_\_\_\_ Curr.+/- \_\_\_\_\_

2) Latitude:\_\_\_\_\_ Clues:\_\_\_\_\_

3) Direction:                      Average Course                      Present Course

Course made good: \_\_\_\_\_

Speed over water: \_\_\_\_\_

Leeway: \_\_\_\_\_

Apparent course: \_\_\_\_\_

4) Weather: Wind speed\_\_\_\_\_ Direction \_\_\_\_\_

Cloud types \_\_\_\_\_ % cover \_\_\_\_\_

Condition of swells: \_\_\_\_\_

Indication of weather changes: \_\_\_\_\_

5) Canoe status:\_\_\_\_\_ Pt.\_\_\_\_\_ Trim \_\_\_\_\_ Sail type\_\_\_\_\_

Condition of rig:\_\_\_\_\_ Notes: \_\_\_\_\_

6) Land clues: Birds:\_\_\_\_\_ Swells \_\_\_\_\_ Clouds \_\_\_\_\_

Notes: \_\_\_\_\_

7) Events: \_\_\_\_\_

8) Mau: \_\_\_\_\_