

The 2013 Cordell Expedition to

CLIPPERTON ISLAND



Participants' Handbook

This copy belongs to: _____

Compiled by
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PRELIMINARIES

About this document

This Handbook is mostly pictures. The reason is that its purpose is to familiarize you with the facilities, equipment, and procedures we will use in carrying out the operation on Clipperton Island. We follow the universal dictum that “A picture is worth a thousand words.” I think you will be surprised to learn that you do not need to read much, and will in fact learn more.

During the voyage south from Cabo San Lucas, we will work through the various stages of the operation, using this Handbook as a guide.

This is not a handbook for operating the radio stations or for running the WiFi and DXA systems. Separate Handbooks for the Radio operations, WiFi layout, DXA operation, etc. are being produced by the individuals responsible for those components.

Print a copy of this document and bring it with you

You are responsible to know this material. We will talk about the material in this Handbook on the way to Clipperton. In case you are not able to participate in some of these discussions, you should familiarize yourself with this material before getting onboard the boat.



GENERAL

GOALS AND OBJECTIVES

General

The primary motive for the Cordell Expeditions is to foster international goodwill and cooperation through person-to-person contacts, in documenting remote sites and preserving their natural history and cultural resources. To that end, the 2013 Clipperton Island Expedition will be international in scope and participation.

The primary goal for the Clipperton Island Expedition will be to complete the scientific activities safely, without loss or damage to persons or property. To that end, the project will be a model of careful planning, safe operations, and appropriate stewardship.

One objective is to enable as many people as possible to participate in some aspect of the project. To that end, we will welcome support and participation from any source, and we will carry out the project with the highest regard for the interests and needs of our public.

Radio science

The primary goal for the radio operations is to log a valid contact with as many different amateur radio operators as possible. To that end, we have assembled a world-class system of 11 radio stations and a world-class team of radio operators.

Another goal is to extend technology and techniques for radio operations on remote sites. To that end, we have implemented a quasi-real-time system called DXA, which enables uploading the radio log data through a satellite link and display on any web browser within 1 minute. This system will provide an exciting and rewarding experience for the DXer, as well as reduce the number of duplicate contacts and eliminate false logging by pirate stations.

Natural Science

Clipperton Island provides both an excellent opportunity to extend our understanding of the oceanic coral reef environment and its ecosystems, and a challenge to document the site for future protection, conservation, and management. We believe that with proper care, a brief visit can be made that will provide useful data while keeping the risks negligibly low.

To this end, we plan to carry out a series of scientific investigations of the environment and biological populations at Clipperton. While important to the overall project, the Natural Science activities will not interfere with the radio operations. Of the 29 persons on the island, 24 are radio operators; the other 5 are scientists and journalists onsite to carry out the Natural Science program.



OFFICERS

The onsite operation will be managed onsite by the following:

Robert Schmieder KK6EK	Expedition Leader
Walt Wilson N6XG	Site Manager
Chris Janssen DL1MGB	Radio Operations Manager
Mike Shapiro WA6O	Satellite Link Manager
Ed Cox KE3D	WiFi Manager
LouPhi Loncke	Natural Science Coordinator
Lance Collister W7GJ	Six Meter/EME Operations
Markus van Bergerem DJ7EO	Power Engineer
Mathias Mueller DJ2HD	Health, Safety, and Security Officer
Kenneth Hemstedt OZ1IKY	Resource Manager
Dave Farnsworth WJ2O	Documentation Officer
Ramon Gutierrez	French TV Journalist
Christian Jost	Geography Researcher
Luis Chartarifsky XE1L	Ombudsman
Igor Lazarev USØVA	Medical Officer

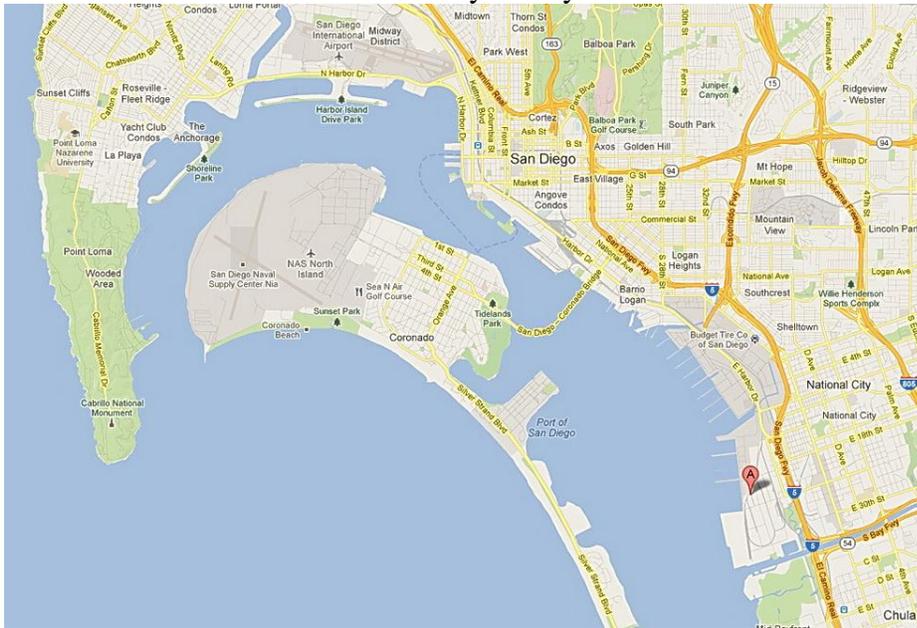
These personal have both responsibility and authority to establish, maintain, operate, and control their respective areas. Although most of these functions are self-explanatory, we clarify some that may be less obvious. Onsite, the Expedition Leader has overall responsibility and authority for the operations, including scheduling, activities, sequencing, safety, equipment, logistics, and balance of operations. The site manager has responsibility for erection and removal of the entire facility. The satellite operations manager has authority over the internet connection and DXA. The Resource Manager has the responsibility of managing food, water, fuel, and other supplies. The Documentation Officer will ensure that we keep complete and accurate records of all the activities. The Ombudsman is the person to whom anyone who has a problem or issue can go with assurance of fair and sympathetic counseling.



STAGING

LOADING

The boat will be loaded on Thursday-Friday 14-15 Feb 2013 at:



Knight and Carver
1313 Bay Marine Dr.
National City, CA 91950

(619) 336-4141 ext. 133 (Nancy)

Most of the team members will be staying at:

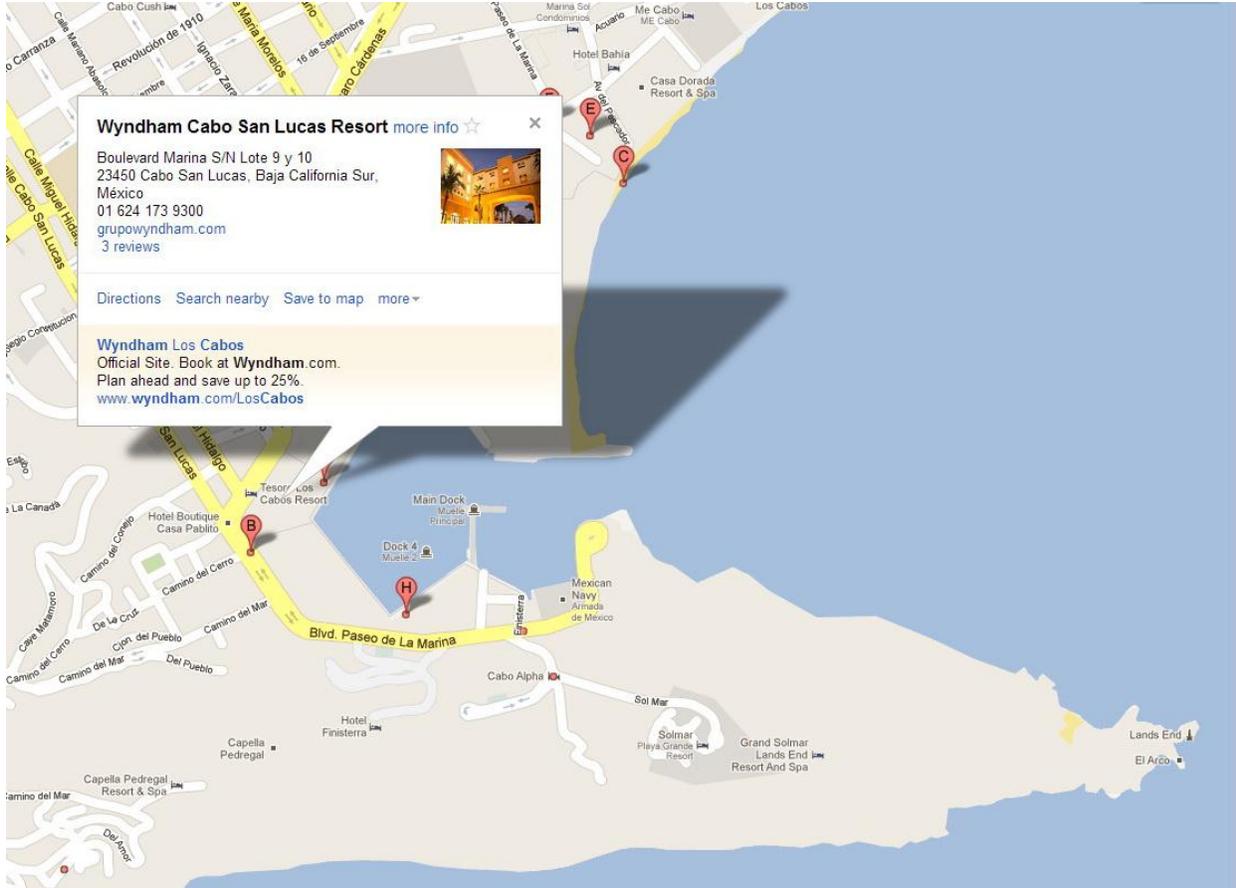


Best Western Yacht Harbor
5005 N. Harbor Dr.
San Diego, CA 92106
(619) 224 3254



CABO SAN LUCAS

The TX5K team is staying at:



SAILING

The vessel will sail with part of the team from San Diego, CA at 1800 hrs. on Monday 18 Feb. 2013, and will make a brief stop at Cabo San Lucas on 23 Feb. to pick up the balance of the team. The team already onboard will not be allowed to disembark at Cabo (sorry!). On the return voyage, the vessel will again stop at Cabo San Lucas at 0800 hrs. Friday 15 March 2013 to let off the partial team. The balance of the team and crew will then return with the vessel to San Diego, arriving around 1800 hrs. Monday 18 March 2013.

Day #	Date	Wed	Time	Location
0		Mon	1800	Lv SD
1	February	Tues		UW
2		Wed		UW
3		Thu		UW
4		Fri		UW
5		Sat	800	UW/Cabo/UW
6		Sun		UW
7		Mon		UW
8		Tue	2200	UW/Arr CI
9		Wed		Landing/Setup
10	February	Thu		Setup/QRV
11	March	Fri		QRV
12		Sat		QRV
13		Sun		QRV
14		Mon		QRV
15		Tue		QRV
16		Wed		QRV
17		Thu		QRV
18		Fri		QRV
19		Sat		QRV
20		Sun		QRV/Teardown
21		Mon		Teardown/Loading/UW
22		Tue		UW
23		Wed		UW
24		Thu		UW
25		Fri	800	UW/Cabo/UW
26		Sat		UW
27		Sun		UW
28	March	Mon	1800	UW/Arr SD

UW=Underway
SD=San Diego
Cabo=Cabo San Lucas
Local (CI) Time = UTC-8hrs

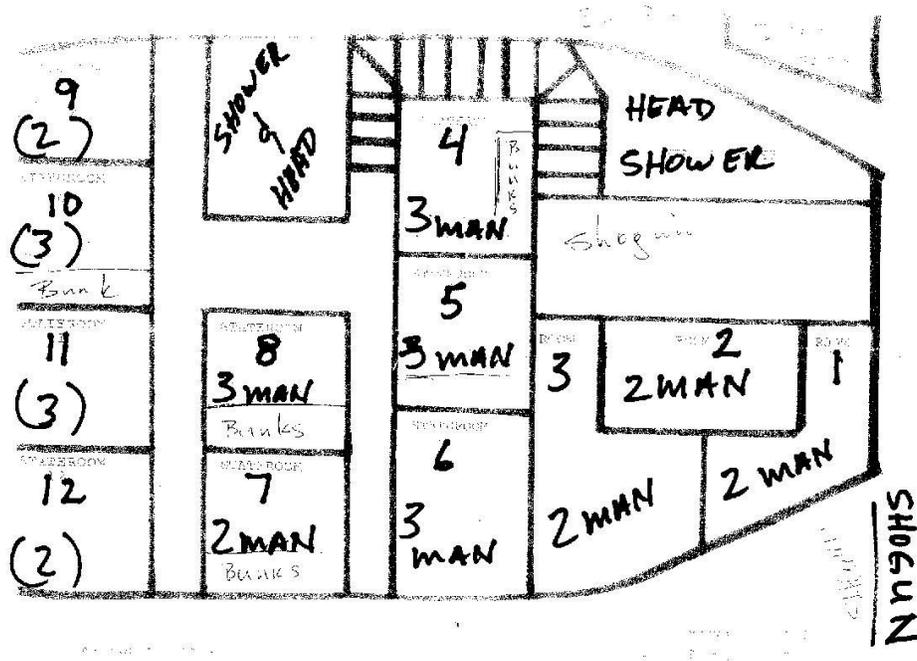
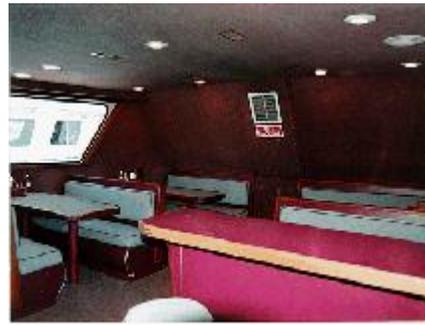


THE VOYAGE

THE SHOGUN



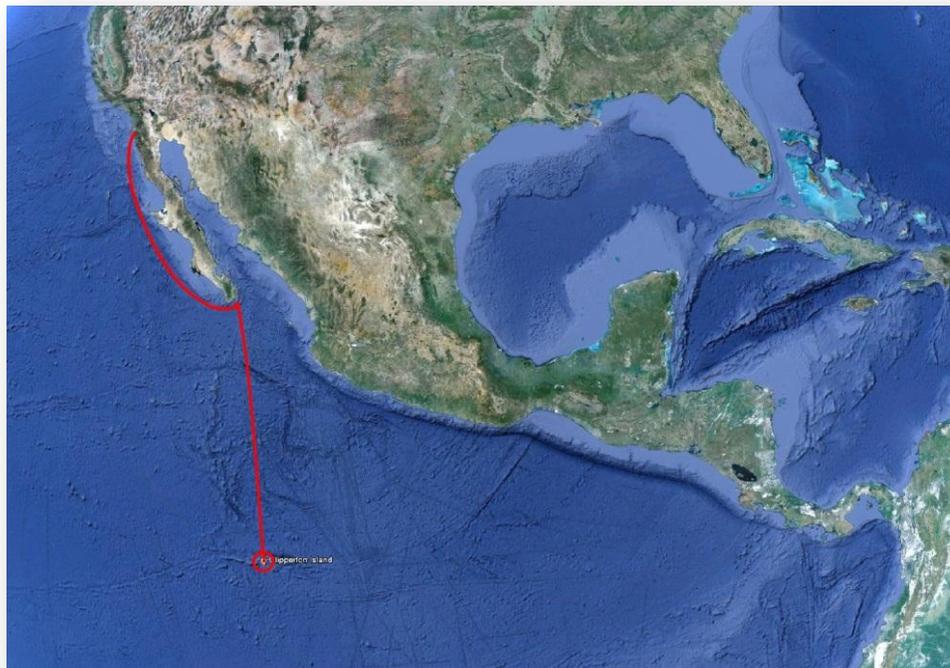
CABIN AND STATEROOMS



UNDERWAY



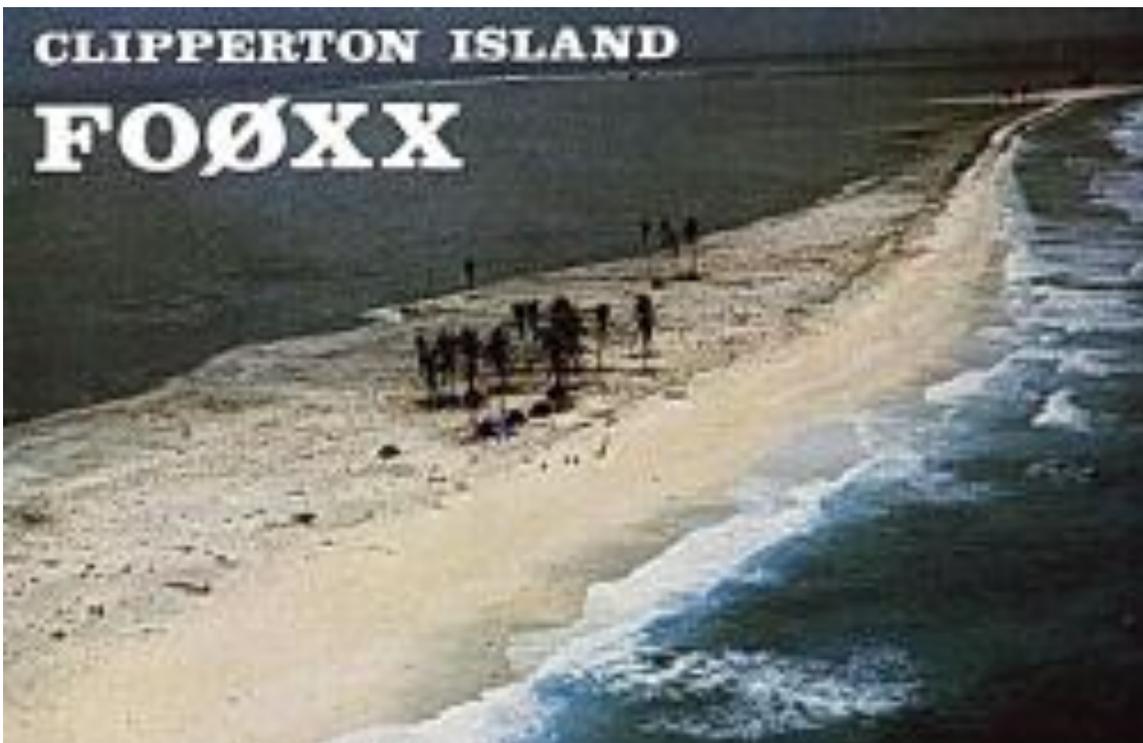
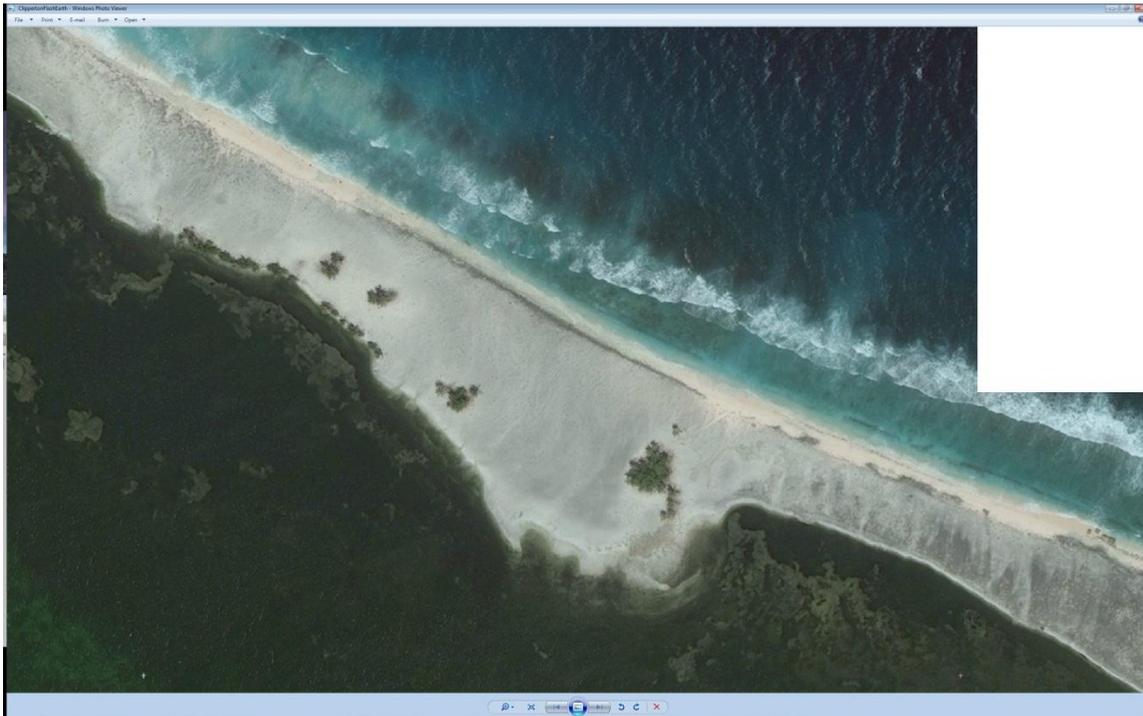
TRACK OF THE VESSEL



IMAGES OF CLIPPERTON



CAMPSITE (North side)



CAMPSITE SOUTH SIDE (Bougainville)



CAMPSITE SOUTH SIDE (Bougainville) (con't)



CAMPSITE SOUTH SIDE (Bougainville) (con't)



LANDING

SEQUENCE OF OFF-LOADING

#	DESCRIPTION	PERSONNEL	☺	EQUIPMENT
1	LANDING PARTY	Landing party: KK6EK, DL1MGB, N6XG, TV crew	3	1 case emergency supplies (water, food, crab fence,
2	TRANSPORTATION	4 UNLOADERS	7	ATV Wagon Mast, camo tarp
3	GEM/COM SHELTERS	8 TENT ERECTORS	15	Main tents (G=GEM, C=COM) Tools Materials Honda generator #1,#2 Satellite phones Marine radio
4	OVERNIGHT PROTECTION	2 SLEEP TENT ERECTORS 2 SANITATION WORKERS 2 CRAB FENCERS	21	Sleep tents (5) Crab fence Water, food, energy food Masts, camp tarps Sanitation supplies
5	RADIO SHELTERS	2 FURNITURE WRANGLERS	23	Main tents (A=OP1, B=OP2) 6m station (complete) Tables Plastic chairs (12)
6	FURNITURE, ANTENNAS	2 ELECTRICIANS 2 WIFI INSTALLERS	27	WiFi system (complete) Honda generators #3,#4 Tarps Galley supplies Folding chairs Electrical supplies Antennas
7	ELECTRICAL EQUIPMENT		27	Wacher generators #1,#2 Antennas Appliances (microwave, Air conditioner, BBQ, refrigerator, printer) Electrical supplies
8	RADIO EQUIPMENT		27	Wacher generators #3,#4 Pele cases (15)
9	RADIO EQUIPMENT		27	Wacher generator #5 Pele cases (20)
10	RADIO EQUIPMENT		27	Pele cases (20)



TRANSPORTATION



Arctic Cat 450



Wagon (3x5 ft., removable sides)



Loading ramps (10 ft.)



Wheelbarrow (3 available)

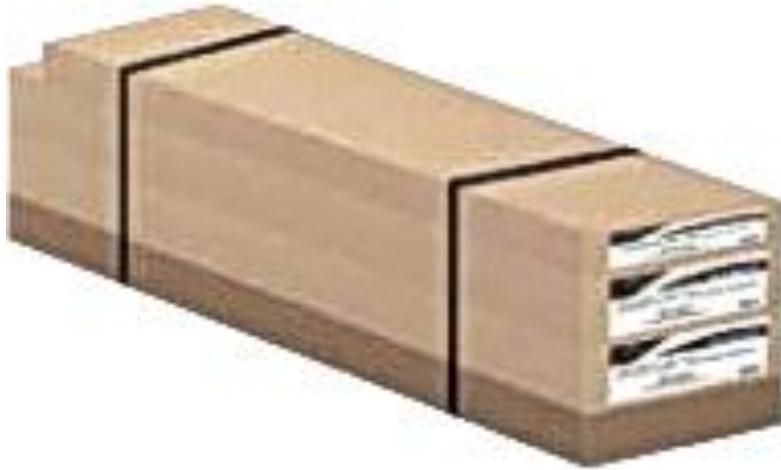


Ratchet straps



Stretch wrap

CARGO



Main tents (550 lbs) (4)



Clamshell cases (16)



Pele cases (50)



Cardboard boxes



Masts (5 ea 8x5 ft. sections)

TOOLS AND MATERIALS



GEM/COM TENTS



GEM

Tent erector 1 _____
Tent erector 2 _____
Tent erector 3 _____
Tent erector 4 _____



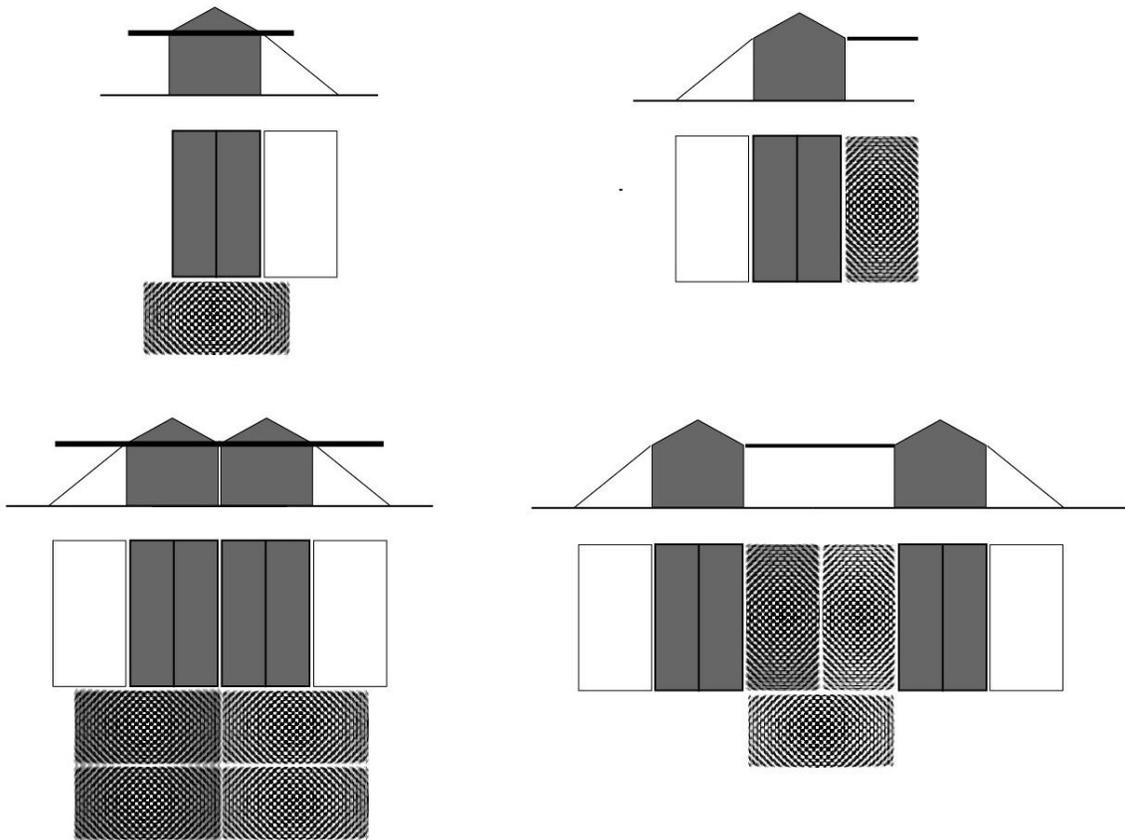
COM

Tent erector 1 _____
Tent erector 2 _____
Tent erector 3 _____
Tent erector 4 _____



TENT/SHADE LAYOUTS

The masts can be used to support the camo tarps to make extensive shaded areas. There are 5 ea. 10x20 ft. camo tarps. The white tarps can be used to form a leaning shaded area against the tents.



SHADE



Camo netting (10'x20')



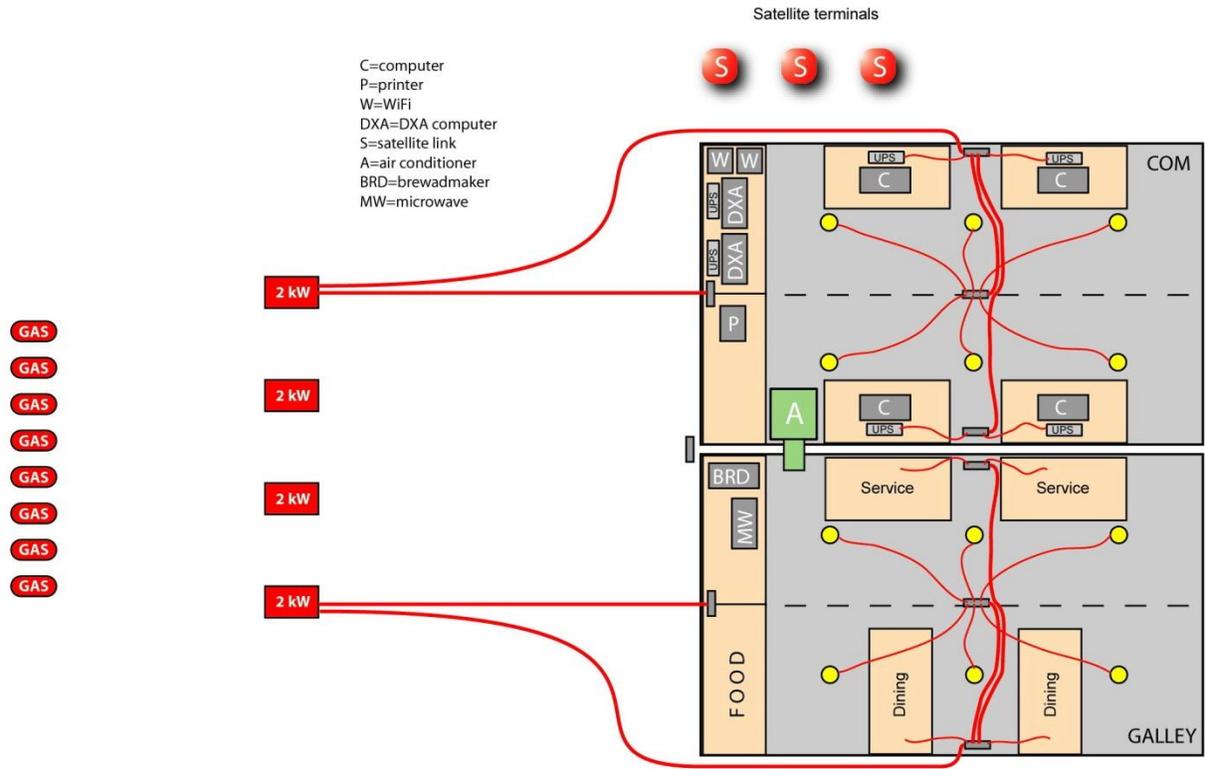
Tarps (12'x24')



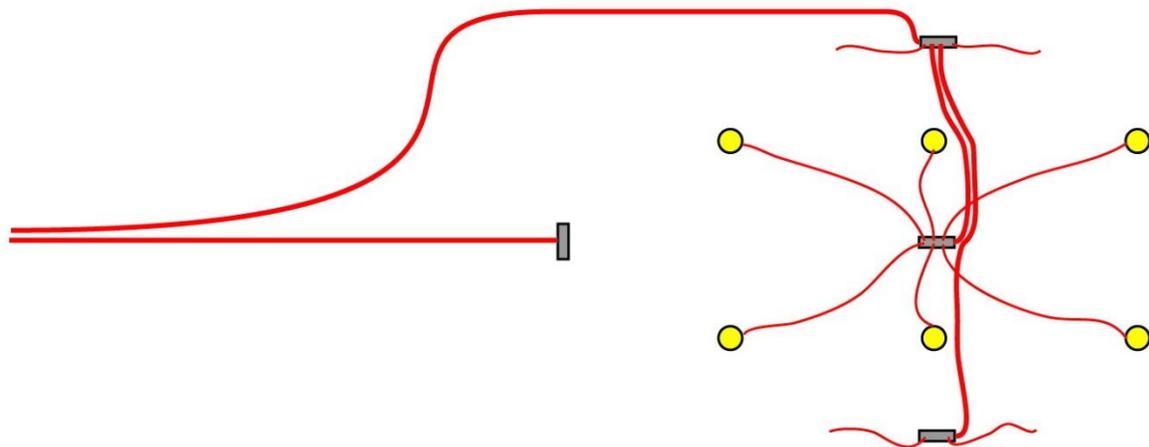
Mylar ceiling liner (54" wide)



FLOORPLAN



ELECTRICAL WIRING (Identical GEM/COM)



LIGHTING AND COOLING



Air conditioner



Ducting fan



Ducting

FOOD SERVICE



Furniture wrangler 1 _____
Furniture wrangler 2 _____

SUPPLIES



Sun block



Batteries



Memory chps



Stretch wrap



Propane



SNACK FOOD



EMERGENCY FOOD



240 breakfasts



200 entrees



WATER



1 ea

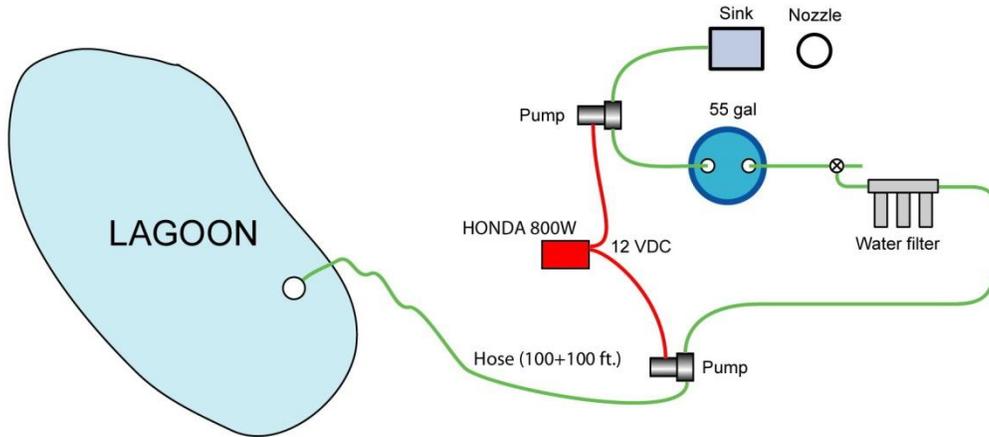
2 ea

1 ea

10 ea

15 ea

WATER PURIFICATION



Pumping from lagoon, purification by multi-stage filtration. Use for washing, bathing, cleaning



3-stage filter assembly



Filters (30 ea)



Water tester



Purification tablets



ELECTRONICS



Printer



DXA laptop



Radio WiFi



DXA sat link



Science WiFi



Science sat link



Sat phone

WiFi installer 1 _____

WiFi installer 2 _____



GASOLINE



SERVICE



RADIO SITES (A=OP1, B=OP2)

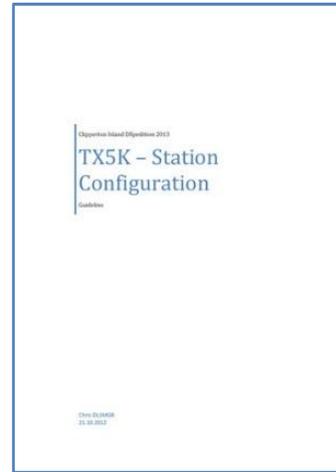


Tent erectors (see GEM/COM)



STATION CONFIGURATION

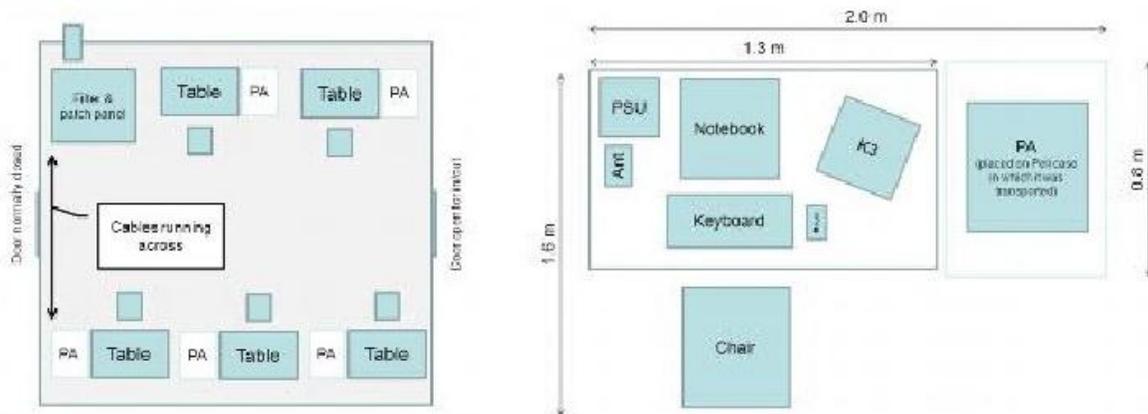
The configuration of the stations is described in the document by Chris DL1MGB. Here we provide only a brief excerpt from that document for convenience. The full document should be studied by those responsible for setting up the stations.



The standard hardware configuration consists of 10 similar sets:

- Notebook with Win-Test software and connection to WLAN
- Keyboard and mouse
- Transceiver Elecraft K3 with Heil headset ProSet4 and low power bandpass filters (optional)
- Microham MKII interface
- Power amplifier ACOM 1000 or OM Power 2500
- High power 4O3A bandpass filters
- Antenna switching unit (VDAs and 4Squares)
- 13.8 V DC power supply
- UPS 1 kVA (optional) for continuous operation during generator refilling or maintenance

Station layout



EQUIPMENT



Electrician 1 _____
Electrician 2 _____

SERVICE



RADIO EQUIPMENT



FURNISHINGS



Foot pedal pads



Pedal putty

FACILITIES

SLEEPING TENTS

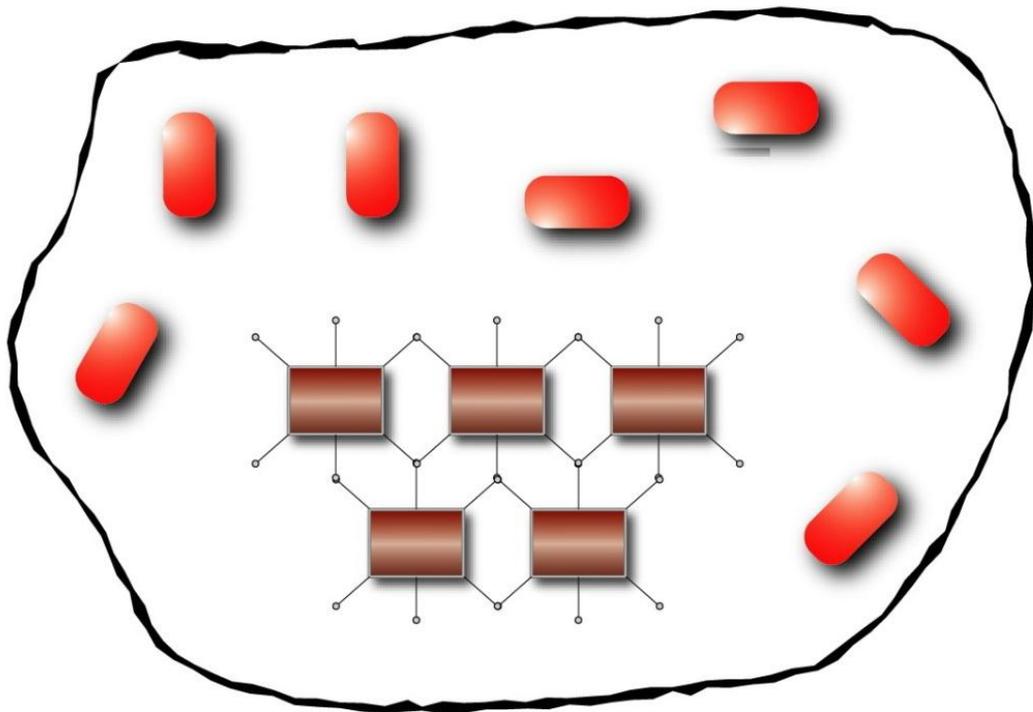


Sleep tent erector 1 _____
Sleep tent erector 2 _____

CRAB FENCING



The crab fence will be installed around the tents. It may be necessary to group the sleeping tents together in order to have enough perimeter. We have shipped 400 ft. total of fencing; half has stakes that can be driven into the ground, the other half has stakes that do not have points.



Crab fencer 1 _____
Crab fencer 2 _____



SANITATION

We have two long-drops, which will involve digging a hole and installing the plywood sides and lids. We have one privacy tent; the other privacy will be in the bushes or trees.



Long drop with privacy tent



Disinfectant/deodorant



Insect fogger



Gravity shower (5 gal)

Sanitation engineer 1 _____

Sanitation engineer 2 _____



SIGNS AND FLAGS

COUNTRY FLAGS



FRANCE



UNITED STATES



GERMANY



BELGIUM



DENMARK



ITALY



MEXICO



POLAND

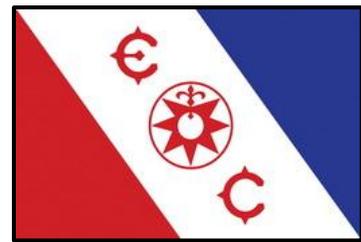


UKRAINE

EXPEDITION FLAGS



CORDELL EXPEDITIONS



EXPLORERS CLUB



STATION BANNER (4 ft.)



OPERATOR SIGN (12 in.)



RADIO OPERATIONS

The Radio Operations Manager (Chris DL1MGB) has prepared a separate Handbook for operating the stations, and that Handbook is the authority. The following comments are merely supplementary.

GOING QRV

The radio operations will begin when two criteria are met:

1. The campsite is declared sufficiently complete to safely and reasonably support the team of 29 persons, with food, water, shelter, and fuel. The Site Manager will make this determination.
2. The satellite link (enabling DXA) is operational. The Satellite Link Manager will make this determination.

The Expedition Leader has the authority to override these criteria and authorize radio operations to begin. However, this will only be done if it appears that safety is not at risk and significant delay would be unwarranted. Obviously we will all be very eager to begin radio operations as soon as possible, and we will do that, consistent with reasonably completing the site installation.

OPERATING

Radio operations will be controlled by the Radio Operations Manager, who has the authority to select bands and modes, determine and alter antenna allocation, interrupt and resume operations, and assign operator shifts. So long as the radio operation does not threaten safety, this authority will not be subject to alteration by the Expedition Leader or other officer.

The Radio Operations Manager has the authority to set the rules for operating behavior. The DXpeditions carried out previously by Cordell Expeditions, have adhered to the following rules:

Never, never be anything but totally polite to the audience, even when the events are frustrating and the audience is not polite. There is NEVER any excuse for operator rudeness, and the audience will win any such confrontation.

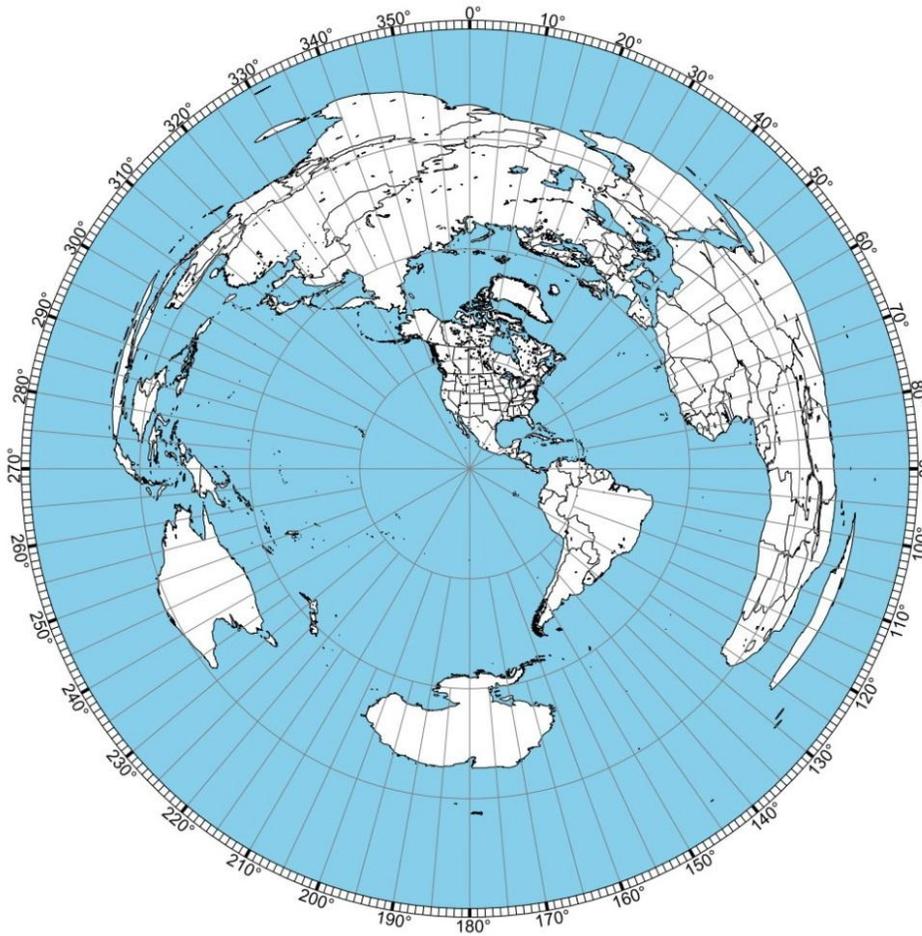
Strive for exceptional accuracy in logging calls. Be extremely conservative. It is better to lose a QSO than to break a call sign. Let's strive for 1% (or less) error in the log. Remember, the moment you press the return key, the QSO goes up the internet to be displayed to the world on DXA. Be aware that if you break a call, DXA will show that to the DXer in less than 1 minute, and he will want to make another QSO. If you recognize this happen, log his call as well as you can and understand why he is making a "dupe."

Absolutely follow your own rules. If you call for "Eu-only," never, never log any other call but Eu stations.

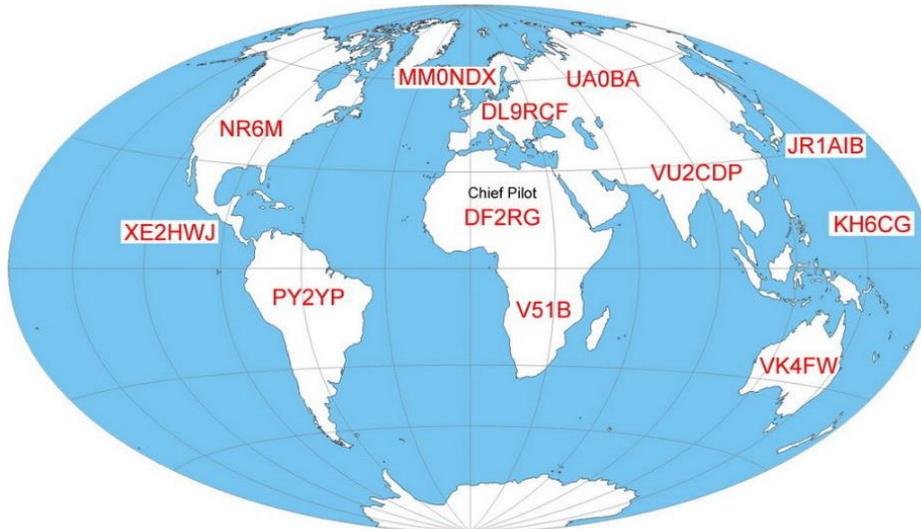
However, the information in the Radio Operations Handbook will cover (and supercede) these remarks, which are only here for convenience.



EQUIDISTANT AZIMUTHAL MAP



PILOTS



RADIO FREQUENCIES

[Provided by Chris DL1MGB]

	CW	SSB	RTTY
160m	1833 (1)	-	-
80m	3523 up	3785 up or down	-
40m	7023 up	7185 (2)	-
30m	10103 up	-	10137 up
20m	14033 up	14185 (3)	14087 up
17m	18083 up	18165 down	18097 up
15m	21033 up	21285 up	-
12m	24903 up	24975 up	-
10m	28033 up	28515 up	-

Remarks

(1) listen up 2 / listen 10 down for JA

(2) up 5-15 or down 5-15 / up 7225 for US / down below 7100 for non-expanded band countries

(3) listen above 14225 for US General licenses

GOING QRT

The radio operations will end when either of two criteria are met:

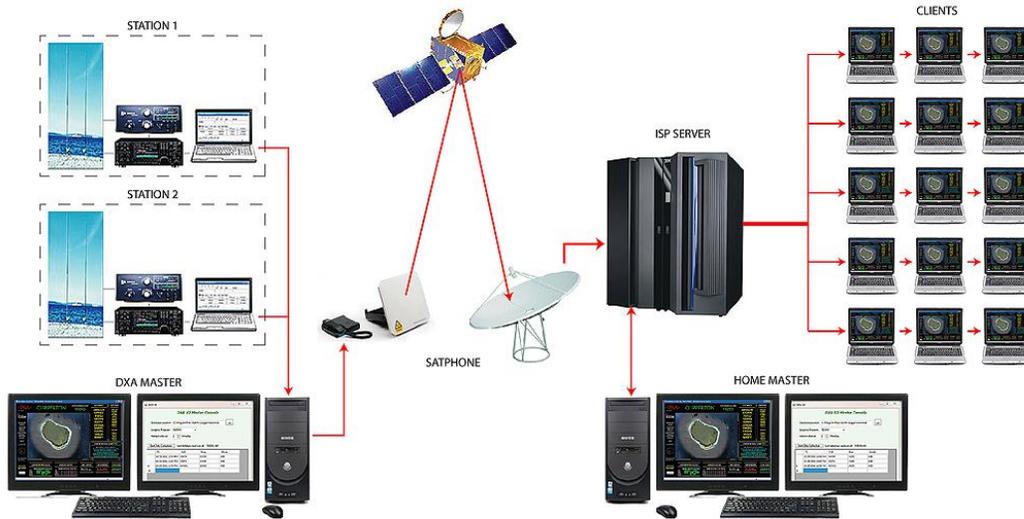
1. An emergency is declared that requires cessation or evacuation. Any of the following officers can make this declaration: The boat skipper, the Expedition Leader, the Medical Officer.
2. The schedule for normal (non-emergency) reloading the boat is defined. This will be done by the boat skipper and/or the Expedition Leader.

The Expedition Leader has the authority to override these criteria and demand cessation of radio operations. However, this will only be done if it appears that safety is at risk or legality is in question. Obviously we will want to extend radio operations as long as possible, and we will do that, consistent with ensuring safe, complete, and timely dismantling and reboarding.



DXA

The Satellite Link Manager is responsible for ensuring the continuous operation of DXA, and controlling the flow of data, images, video, and other information through the satellite link computer. The DXA computer will only be operated by the Satellite Link Manager, the Expedition Leader, or their designees.



=DXA=
Clipperton Island
Expedition Call Sign
TX5K

Version 2
1 - 10 Mar 2013

TX5K Home

TOGGLE MAPS
TOGGLE DATA

SOUND
Refreshes in 40

PAUSE

QUICKTIPS
HELP
DXA HOME
PRIVACY
ABOUT
CONTACT

Clipperton Island

CURRENT	PREVIOUS
VE3CRG	- 0415 UTC -
JG1FGL	KF6KDA
JH2LLE	FM5AN
K7TAB	JF1KWG
WX6W	ZL1ABX
W7WQ	UA9CJA
JA3PRM	- 0414 UTC -
	NX8BY
	BD4CQ
	KB4FB
	V73AX
	K3ZO
	NE7D
	JH1OCC
	RK3ZZ
	- 0413 UTC -
	WB6ZBK
	WX6W
	JH1EG
	K7VL

MESSAGE FROM **TX5K**

Welcome
W6OAT

CALL SEARCH

W6OAT

Please enter...

...a valid callsign

CONFIRM **W6OAT** LOGGED

160 80 40 30 20 17 15 12 10 6

CW	■	■	■	■	■	■	■	■	■	■
SSB	■	■	■	■	■	■	■	■	■	■
DIGI	■	■	■	■	■	■	■	■	■	■

CURRENTLY **TX5K** WORKING

160 80 40 30 20 17 15 12 10 6

CW	●	●	●	●	●	●	●	●	●	●
SSB	●	●	●	●	●	●	●	●	●	●
DIGI	●	●	●	●	●	●	●	●	●	●

TIME REMAINING

32 d 14 h 44 m

Wed, 06 Feb 2013
04:15:49 UTC

TOTAL QSOs

351746

CW SSB DIGI
191223 152352 3881



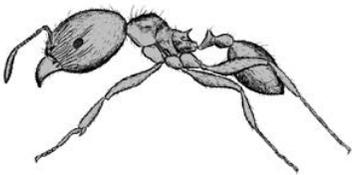
SCIENTIFIC WORK

While the great majority of the effort on this expedition will be the radio operation, the scientific research is also an essential part of the project. The increasing awareness of the fragility of ecosystems, and the need for documentation of biological communities, demands that radio amateurs who essay to activate a remote and isolated location participate in building a future of understanding, protecting, and rationally managing such resources.

For these reasons, the 2013 Clipperton Expedition has enjoyed a much higher level of support than previous radio-only DXpeditions. Our ability to put first-class equipment and a world-class team on Clipperton is due in no small part to the scientific activities that we made an integral part of the project from the beginning. The following projects are individually rather small and undemanding, but they will collectively make a significant contribution to our knowledge of Clipperton. It is safe to say that they were necessary for the permit, for the funding, and for the future of DXpeditions to similar remote sites.

Although most of the team is radio operators, everyone is welcome to participate in these projects to the extent you desire and have time available. The Expedition Leader and the Natural Science Coordinator will make daily announcements of the projects that are to be carried out the next day, and you are welcome to volunteer to help.

SEARCH FOR INVASIVE ANTS



Pheidole megacephala, known as “the big-headed ant,” is an exotic species with a potentially devastating impact on native invertebrate fauna. It has spread worldwide into tropical and subtropical regions, and many islands and atolls. It is among the most dangerous of exotic pests. In abundance, *P. megacephala* constitutes a manifest threat to a natural ecosystem. Typically, it attacks and destroys most other insects, spiders, and even small birds. So far, *P. megacephala* has not been reported from Clipperton. Nevertheless, because of its high potential danger, we will search for and document possible colonies of *P. megacephala*.

SEARCH FOR FORAMINIFERA



Foraminifera, microscopic one-celled animals that form tests that look like molluscan shells. Modern forams are primarily marine, although some can survive in brackish conditions. Because of their diversity, abundance, and complex morphology, fossil foraminiferal assemblages are useful for biostratigraphy, paleoclimatology, and paleoceanography. They can be used to reconstruct past climate by examining the stable oxygen isotope ratios, and the history of the carbon cycle and oceanic productivity by examining the stable isotope ratios of carbon. Living foraminiferal assemblages have been used as bioindicators in coastal environments, including indicators of coral reef health. There are no documented species of foraminifera from Clipperton. Therefore we plan to make a collection of sediments from the lagoon, beach, and deep subtidal in an effort to identify forams.



FLIGHTLESS BIRDS



Pitman and colleagues have documented an exceptional observation of the mask boobies at Clipperton: almost 5% of the entire population (a total of more than 500 birds) exhibited a permanent wing deformity known as Angel Wing. This deformity rendered the birds flightless, resulting in significantly higher chick mortality associated with lowered foraging capability. There remains, however, the mystery of how to account for adult deformed birds: what do they eat? There appears to be no data on this phenomenon, and therefore it seems appropriate to make some additional

observations. We will not have sufficient manpower to carry out a comprehensive count of the masked booby population and its deformed fraction. However, we could make incidental observations of selected birds, and attempt to record their feeding or foraging behavior.

INVASIVE RATS



The relatively recent inadvertent introduction of rats has caused major shifts in the populations on Clipperton Island (Pitman et



al., 2005). During our stay on the island, we have the opportunity to observe foraging behavior in the rats. Since this activity is most likely to be mostly nocturnal, we anticipate setting up appropriate cameras on lighted baited stations for automatic monitoring.

NOCTURNAL FAUNA



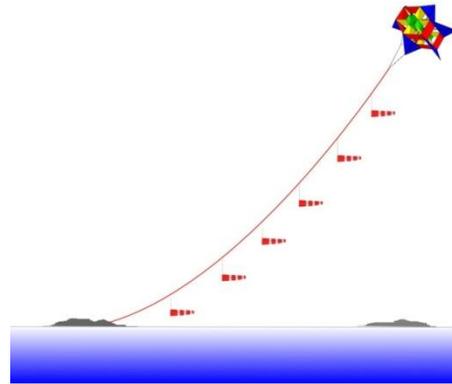
Invertebrates unique to Clipperton Island include a land snail *Succinea atollica*, a centipede *Cryptops navigans*, a hermit crab *Calcinus mclaughlinae*, and unidentified flies, sand fleas, and a dragonfly. In the expectation that there are numerous unobserved species, we will deploy an ultraviolet light and trap during the nights. The collection from each night will be preserved, and attempts will be made to correlate the number and species with basic environmental variables such as temperature and wind.



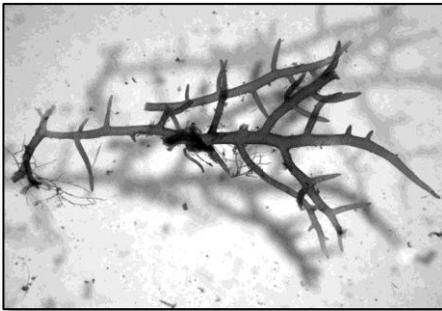
WINDBORNE BIOTA

It is well-known that there is a considerable flux of insects and other small arthropods and well as inorganic debris, in the atmosphere, even above the most isolated regions of the oceans. In terrestrial areas, this process is known as aeolian ecology; it is a major component in the spread, establishment, and maintenance of populations.

We plan to sample the airborne biota with a kite-lifted trap that will be flown for the duration of our stay on Clipperton.



EXOTIC ALGAE



In spite of numerous visits since the early 1700's, the marine algae of Clipperton Island remains incompletely described. The very low degree of species diversity, even for Pacific atolls, is remarkable. This suggests that there is good reason to continue investigating the algal populations on Clipperton. In addition to the possibility of cryptic resident species, there is the possibility of undocumented immigration or importation of exotic species. Changes in world climate could alter oceanic currents, bringing Clipperton into range

for propagation from distant locations. Furthermore, small changes in the water temperature and composition can have large effects on resident populations. We will collect shallow subtidal rocks that could harbor cryptic species and culture them, in an attempt

PLASTIC DEBRIS

Clipperton Island, like too many other islands and atolls, is awash in plastic, glass, and metal debris. It is lethal to birds, fish, and any other creatures able to ingest it, in pieces large or small. Here are some typical fairly large pieces of plastic debris found on the beach. Eventually these big pieces get broken up into smaller pieces, and then tiny pieces. Tiny pieces are harder to see, but they are even more dangerous than the big ones.



This is not a little problem--it's a BIG one. We will devote some of our time to semi-quantitatively documenting the plastic debris on Clipperton. We will do surveys and verbal descriptions of as much of the island as we can. When we leave, we will take several big bags of plastic garbage with us, as a symbolic commitment to ridding the ocean and its islands of plastic debris.



TEARDOWN

It is essential that equipment be carefully and efficiently repacked, in their original containers, if possible. For that reason, it is important to protect cardboard cartons from rain, and all equipment from sand. Tarps, tents, and other foldable materials must be very carefully refolded, or else they will not fit in their containers. All equipment should be cleaned before packing. For packages that have been secured with plastic binding tape, use more tape to re-bind them.



Nylon strapping (clamps)



Ratchet straps



Gaffer tape

DISEMBARKATION



The ATV/wagon will be used to move the cargo to the beachhead for loading on the boat. A team will be needed at the beach to load the packages on the landing raft. The boat skipper will sequence the items according to space, in the same way that they were loaded in San Diego.

We will probably start dismantling some parts of the site while some stations are still operating. For this to succeed, the items that must go down in the holds (22" square openings) must be packed and loaded first.

LEAVING THE SITE

We have an absolute policy of leaving nothing behind. That includes equipment, trash, and damage. We will probably accumulate a trash dump, which may be burned upon departure. The Site Manager will walk the emptied site to ensure that we have left nothing.



MEMORIES



Here is a little space in which you might want to record your most significant impressions and experiences. These are personal to you, but if you are willing to share them with the team, it will probably be a very rewarding, and perhaps surprising!

THE TEAM

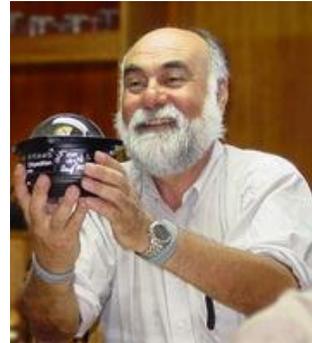
-----Participants (radio operators)-----



Robert Schmieder KK6EK
Organizer, Expedition Leader



Christian Janssen DL1MGB
Co-organizer (Radio)



Carlos Nascimento NP4IW
Expedition Member (Radio)



Gerhard Richter DJ5IW
Expedition Member (Radio)



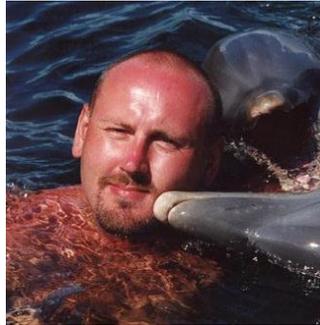
Robert Lusnia SP5XVY
Expedition Member (Radio)



Dietmar Kasper DL3DXX
Expedition Member (Radio)



Andreas Paulick DL5CW
Expedition Member (Radio)



Yann Weber F1NGP
Expedition Member (Radio)



Mathias Mueller DJ2HD
Expedition Member (Radio)



Ed Cox KE3D
Expedition Member (Radio)



Walt Wilson N6XG
Expedition Member (Radio)



Heye Harms DJ9RR
Expedition Member (Radio)



----- Participants (radio operators)-----



Rick Royston KF4ZZ
Expedition Member (Radio)



Michael Shapiro WA6O
Expedition Member (Radio)



Luis Chartarifsky XE1L
Expedition Member (Radio)



Tom Koglin DL5LYM
Expedition Member (Radio)



Igor Lazarev US0VA
Expedition Member (Dr, Radio)



Kenneth Hemstedt OZ1IKY
Expedition Member (Radio)



Roman Ganovych US5WDX
Expedition Member (Radio)



Jef Claes DD2CW
Expedition Member (Radio)



Giovanni Bini I5JHW
Expedition Member (Radio)



Markus van Bergerem DJ7EO
Expedition Member (Radio)



Dave Farnsworth WJ2O
Expedition Member (Radio)



Lance Collister W7GJ
Expedition Member (Radio)



----- Participants (Science and Documentation) -----



Louis-Philippe Loncke
Expedition Member (Special Projects)



Ramon Gutierrez
French TV THALASSA



Jean Basille
French TV THALASSA

----- Guest researchers (Island science) -----



Prof. Dr. Christian JOST
Island Science

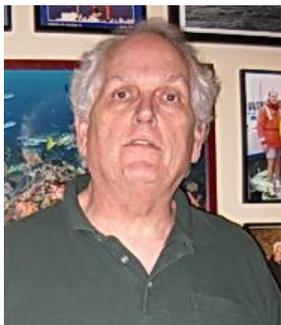


Prof. Jean MORSCHER
Island Science

----- Offsite Team Members -----



Peter Bourget W6OP
DXA development



Dean Davis N7XG
DXA development



Rich Holoch KY6R
Software



Dean Straw N6BV
Propagation predictions



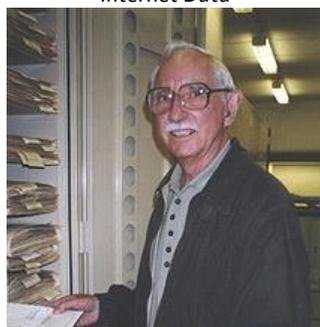
Alan Maenchen AD6E
Support, Communications



Bob Schenck, N200
USA, QSL Manager



Felipe Ceglia PY1NB
Internet Data



Paul Silva, PhD
Botany (algae)



Mary McGann, PhD
Biology (meiofauna)



Robert Pitman
Environmental Science (birds)



----- Pilots -----



Gary Jaeger (Chief)
Germany, DF2RG



Bill Horner
Australia, VK4FW



Marcus Dornach
Germany, DL9RCF



Col McGowan
Scotland, MMØNDX



Andre Pretorius
Namibia, V51B



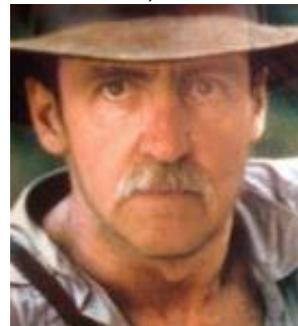
Cesar de C. Rodrigues
Brazil, PY2YP



Rex Turvin
USA, NR6M



Craig Manning
Mexico, XE2HWJ



Stan Schwartz
Hawaii, KH6CG



Deepak Pathak
India, VU2CDP



Andy Moiseev
Ukraine, UAØBA



Yasuyuki Inoue
Japan, JA1AIB



DEFINITIONS

“Cordell Expeditions”

The term “Cordell Expeditions” refers to the nonprofit organization founded and managed by Dr. Robert W. Schmieder, who acts as Expedition Leader. The organization has no formal membership, relying on volunteers to support and implement individual expeditions as separate projects. Dr. Schmieder takes no salary or other benefits from the organization. Financial records are kept separately for each expedition, and the records are open to the members. The individual projects are usually referred to as “The XXXX Cordell Expedition to YYYY.”

“The Expedition”

In this document, the term “Expedition” means “The 2013 Cordell Expedition to Clipperton Island, Territory of France, Eastern Pacific Ocean.” This term means the entire project, including preparation and post-expedition activities, not just the actual voyage to Clipperton Island or just the onsite activities at Clipperton Island. Various terms will be taken as synonymous with “Expedition,” such as 2005 Clipperton Island Project, Kure Expedition, KA Expedition, etc.

“The Voyage”

The term “Voyage” refers specifically to the portion of the Expedition that is the actual voyage to and from Clipperton Island, and the time onsite. The Expedition is planned to depart from, and return to, San Diego, California, with a stop at Cabo San Lucas, Baja California, Mexico, on the outbound and inbound legs. The planned dates are 18 Feb 2013 – 18 March 2013. Various terms will be taken as synonymous with “Voyage,” such as 2013 voyage to Clipperton Island, the voyage to Clipperton, Clipperton voyage, CI voyage, etc.

“Participants”

The term “Participants” includes all persons participating in the Voyage under the auspices of Cordell Expeditions (excluding the vessel crew and external scientific observers, if any). The term Participant is taken to be synonymous with “Onsite Participant” or “Onsite Team Member.” Other persons who act in a supportive or supplying role may be called “Offsite Team Members,” “Supporters,” “Sponsors,” and similar terms. Participation in this Expedition is only by invitation from the Expedition Leader.

GOALS AND OBJECTIVES

Personal satisfaction

Among the primary goals of the Clipperton Expedition is personal satisfaction of the Participants. The Expedition will be managed and executed with special regard to personal satisfaction, and to mechanisms for enhancing it. It is expected that all team members will behave in a professional manner, with courtesy and respect for others, and in a spirit of cooperation appropriate to the common goal of the Expedition.

Responsibilities

The Participant is directly responsible for safety and security of the equipment and personnel of the Expedition. At all times he must act in accord with the goals and procedures established by the Expedition. He is also responsible for securing his personal property, and taking all reasonable actions to protect the persons and property of the Expedition, the vessel, and the environment at Clipperton Island.

Safety

The overriding consideration in all plans and operations will be safety of personnel and property. While some risk is inherent in an exploratory venture such as the Expedition, we will make no plan and take no action that involves significant risk to life, limb, or property. Plans for emergencies and contingencies will be an integral and priority part of this project.

PROPERTY

Intellectual property

Photographs, video, sound recordings, field notes, sketches, drawings, paintings, and similar materials produced in connection with the Expedition are the property of the creator, who holds the copyright according to the home country of the Participant. The Expedition is granted the right to freely copy any or all such materials for purposes of enhancing its noncommercial programs, together with the right to royalty-free use in publications, programs, and similar promotional activities. Participants are expected to make available reasonable copies of any and all such materials at the request of the Expedition Leader. The Expedition does not have the right to distribute such materials to third parties without consent of the copyright holder, except as a minor part of a larger document. Use of such materials by any member of the Expedition is subject to the consent of the copyright holder.

Scientific property

Cordell Expeditions is the owner of scientific materials resulting from the Clipperton Expedition. These include biological specimens, soil, water, and rock samples, logged data such as radio logs, meteorological and bathymetric records, photographs, videos, sound recordings, and similar materials that are primarily scientific data not specifically owned by any person, historical materials, either records or artifacts, and all other similar materials that are reasonably part of the scientific record of the Expedition. The creator or supplier of such records has the right to freely copy the materials (at personal expense) for any use not inconsistent with the basic scientific nature of the Expedition.

Expedition property

Equipment borrowed for the Expedition will be returned at the conclusion of the Voyage. Equipment donated to Cordell Expeditions and used for the Expedition remains the property of Cordell Expeditions. Equipment



purchased using Expedition funds will be disposed by the Expedition Leader or his representatives according to the agreement of the Participants.

Personal property

Some personal gear and materials will be shipped and used in common with the Expedition. The owner of such gear and materials has the authority for controlling such gear and materials. Personal property remains the property of its owner; that is, it will not be disposed by the Expedition.

PARTICIPANT RESPONSIBILITIES

Provisions by the Participants

Participants will provide the following:

- Participant's fair share fee
- Travel to/from the point of departure (San Diego, California or Cabo San Lucas, Baja)
- Personal health and safety items (sunscreen, water bag, covering, etc.)
- Personal clothing, food, liquor, etc.
- Personal sleeping gear (sleeping bag, etc.)
- Personal computer, digital media, camera, film, processing.

Inclusions and exclusions

The fair share fee covers all expenses from the time of boarding the vessel to the time of disembarking. Participants are responsible for their personal travel to/from the vessel, for special foods, liquor, etc., not included in the general provisioning, personal cameras and computers (except that the Expedition will provide the radio logging computers), storage media (chips, disks, etc.), and will be responsible for any exceptional service such as special food preparation, rescue, medical treatment, hospitalization, etc.

Personal communications

Participants will be allowed a reasonable amount of access to the communications facilities for personal communications. However, this is to be regarded as a privilege, and kept to absolute minimum. It is expected that personal communications will be paid by the Participant using the facilities, and a log will be kept to ensure fair use. Cost of the Iridium satphone is \$1.50/min.

Political

Clipperton Island is under the jurisdiction and protection of the Republic of France, and is the object of ongoing research activities by various organizations. Therefore, the Expedition will be conducted in alignment with the policies and objectives of the appropriate governmental, scientific, and regulatory organizations. The Expedition will respect the rights, interests, and authorities of all persons with legitimate interests in Clipperton Island.

Site resources

The Expedition will take exceptional measures to prevent damage to any resource on Clipperton Island. It will be our policy that any activity that is likely to cause significant impact to a sensitive resource at Clipperton will be terminated unless and until such impacts can be prevented or appropriately ameliorated.



MANAGEMENT

Authorities

During the Voyage, Participants agree to be bound by the rules, decisions, and directives of the Expedition Leader, or his representative. Matters relating to the boat operation, anchoring, landing, services such as food and fuel, recovery, and docking, are under the authority and control of the Boat Skipper. The Expedition Leader has authority for the sequence of landing, siting, erecting, using, dismantling, and recovering equipment, materials, and personnel. The Radio Operations Manager has authority to arrange equipment at the radio operating sites, determine schedules and personnel assignments for operating, and determine the use of the equipment such as frequencies and power. Decisions and actions taken by the Expedition Leader cannot be appealed.

Financial management

Finances will be managed by the Expedition Leader, and will be closed upon completion of the Expedition.

Donations

Donations to the Clipperton Project through Cordell Expeditions will be used only for the Clipperton Project. In the event the Expedition is cancelled by decision of the boat, a substantial amount of the donations can be recovered and will be distributed according to their sources. If the Voyage cannot be completed due to an Act of God or other circumstances beyond the control of the boat or the Expedition Leader, monies donated in advance will be returned only to the extent that there is residual money after all obligations are paid.

Post-Voyage income

Monies received after the Voyage, such as club donations and online donations from QSLs, will be added to the Expedition fund.

Liquidation of excess resources

The Expedition Leader and all others who have possession of excess equipment, materials, or other physical resources, will make appropriate efforts after the conclusion of the voyage to liquidate such resources, the proceeds from which will be added to the Expedition fund to retire outstanding debts.

Financial Reporting

At the conclusion of the Expedition, the Expedition Leader will provide a full and accurate accounting of the income and expenses of the Expedition for the Participants, including the final balance of the Expedition account. If the balance is a surplus, that surplus will be divided equally among the Participants who paid the participants' fee (\$6500) and doctor surcharge (\$150). If there is a deficit, the Participants will be liable on an equal basis for retiring the deficit.



EVENTUALITIES

Disputes

Any participant may bring any issue to the attention of the Expedition Leader with the reasonable expectation that prompt and substantive consideration will be given to the issue. In matters related to safety, mission goals, financing, and public relations, the decision of the Expedition Leader will prevail.

Cancellation

In the event that there are insufficient financial resources, the Expedition Leader is empowered to cancel the Voyage and terminate the Expedition. In this event, personal donations and borrowed equipment will be returned, purchased equipment will be disposed by the Board, and financial obligations will be paid from the cash reserves. Any residual monies, after payment of expenses associated with termination, will be divided among the Participants.

Resignation and refund

The Participants' donation is not refundable. If a Participant wishes to resign from the Expedition, an acceptable replacement participant could take his or her place, and the payments can be applied to the replacement. Responsibility for finding the replacement rests with the Participant. If the Expedition is cancelled in advance of the Voyage, all residual monies will be returned to the Participants. In no case will the Expedition be liable for refunds in excess of its current financial resources.

Withdrawal and termination

Any Participant may withdraw from the Expedition at any time, and may refuse to participate in any activity at any time, without need of stated reason. The Expedition Leader may exclude any Participant from any activity for clear stated cause, which can include prior failure to perform expected duties. The Expedition Leader may terminate any Member's participation in the Expedition for reasonable cause. A terminated Participant may be refunded part or all of his fees, at the discretion of the Expedition Leader.

Liability

All participants in the Expedition will mutually exempt all other participants and organization, specifically including the Expedition Leader and organizers of the Clipperton Expedition and Cordell Expeditions, from any liability whatsoever. This waiver will include losses due to schedule changes, accidents, loss of possessions, medical conditions, ocean-related activities such as diving emergencies and sea creature attack, sunburn, insect and animal attack on land, unscheduled service requirements, food poisoning, electrical shock, and all other losses, regardless of nature and origin.





PARTICIPANT'S AGREEMENT

Participant I, _____, have voluntarily joined with other individuals to participate in an Expedition to Clipperton Island, a territory of France. The project is defined and described in documents posted on the website of the Expedition, <http://www.cordell.org/CI>. I take this action with full awareness of the requirements, limitations, and risks of the project.

Policies I have read, understood, and agree to be bound by the policies for the Expedition, as set forth in the Policies section of this Participants' Handbook as posted on the website.

Travel I agree that I am solely responsible for arranging and funding my personal travel, equipment, services, fees, accommodations, incidental travel, and all related personal expenses to the point of departure and return of the Voyage (San Diego or Cabo San Lucas, Baja). I agree that the Expedition and its organizers and participants and supporting persons and organizations are in no way responsible for my personal expenses and actions.

Costs I understand that all of the costs of the Expedition excluding personal travel from the point of departure and return thereto, will be paid for by the Expedition funds. I have contributed \$6500 to this fund for my participation. I have further contributed \$150 to support the participation of the expedition doctor. I understand that any surplus monies available at the end of the Expedition, after liquidation of excess property, will be divided equally among the Participants (and no others) on a pro rata basis. Likewise, any deficit will be retired by the team.

Emergency I have provided the Expedition with information in case of emergency. I agree to be responsible for the cost of transporting me from any place visited during the Expedition to a suitable medical facility should I become ill or injured, and for subsequent medical and transportation costs related to that illness or injury. I will be responsible for reasonable incidental expenses incurred by others on my behalf in the event of such an emergency. I have the option of covering this responsibility with an appropriate insurance policy.

Waiver I agree to hold harmless all members of the Expedition, specifically the organizers, onsite and offsite participants, and all organizations that have contributed monies and/or services to the Expedition. I specifically exempt Dr. Robert W. Schmieder and any persons associated with Cordell Expeditions from any liability of any kind. I agree that I will not seek compensation of any kind for any loss that I may incur during the period of this Expedition from any participant or combination of participants in this Expedition. This provision covers all incidents of any type, regardless of cause, even in the event of negligence.

Binding My agreement with these provisions, and the actions associated with and implied by this agreement, will be binding on all persons who would seek to represent my interests, including my heirs and counsel. It is my intention to hold all persons and organizations involved with the Expedition fully free and blameless forever.

Name _____ Signature _____

Date _____ Witness _____



REFERENCE

LANDING PERMIT



HAUT-COMMISSARIAT DE LA REPUBLIQUE EN POLYNESIE FRANÇAISE

Cabinet
N°HC3666/CAB/SSIRI

Papeete, le **20 DEC. 2012**

Monsieur,

Par courrier en date du 21 septembre 2012, vous avez sollicité l'autorisation de faire escale sur l'île de Clipperton du 26 février au 11 mars 2013.

Après étude par les services de l'Etat compétents de votre dossier qui ne présente pas d'expertise scientifique à proprement parler, je formule néanmoins un avis favorable pour que vous puissiez vous rendre sur Clipperton, dont je vous rappelle néanmoins le danger inhérent au débarquement et l'extrême difficulté pour y déployer des moyens de secours en cas d'accident.

Je vous rappelle également que la navigation dans la zone doit faire l'objet d'une information auprès de la station MRCC de Papeete (mrccpapeete@mail.pf).

Par ailleurs, en vertu du code de l'environnement et de son article L411-1, j'attire également votre attention, compte tenu de l'intérêt scientifique et de la nécessité de préservation du patrimoine naturel de Clipperton, sur l'interdiction générale de capture ou d'enlèvement d'espèces animales non domestiques ou végétales, qu'elles soient vivantes ou mortes.

Je vous informe également que mes services ont pris un arrêté, n°1350 du 7 septembre 2011, relatif à la protection du biotope de Clipperton nécessaire à la reproduction, à l'alimentation, au repos et à la survie des espèces (notamment concernant les colonies de fous masqués et de fous bruns).

L'ensemble des déchets et les restes d'activités devront être collectés par vos soins et évacués de l'atoll à la fin de votre escale et les lieux remis en leur état d'origine.

Vous trouverez enfin, annexé à ce courrier, un rapport d'observations que je vous demande de bien vouloir remplir puis à retourner à mes services. Ces données permettront notamment aux organismes de recherche en Polynésie française de compléter utilement leurs connaissances sur Clipperton.

Je vous prie d'agréer, Monsieur, l'expression de ma considération distinguée.

Pour le Haut-Commissaire
et par délégation,
le Directeur de Cabinet

Stéphane JARLEGAND

M. Robert Schmieder
Expédition CORDELL
4295 Walnut Blvd
Walnut Creek, CA 94596 USA



RADIO PERMIT



HAUT COMMISSARIAT DE LA REPUBLIQUE
EN POLYNÉSIE FRANÇAISE
BP 115 – Papeete (Tahiti)

ANTENNE DE POLYNÉSIE FRANÇAISE

-O-O-O-

Tél. : (689) 50 60 62 - Fax (689) 50 60 63

Dossier suivi par Madame ARITAI Léonne

Ref. : N°016/2012

LICENCE TEMPORAIRE D'EXPLOITATION D'UNE STATION RADIOÉLECTRIQUE D'AMATEUR

Le Haut Commissaire de la République en Polynésie française autorise :
Monsieur SCHMIEDER Robert *Nationalité : américaine*
à établir et à utiliser dans les conditions prévues par l'arrêté 1573 OPT du 29 mai 1984

1 station(s) radioélectrique(s) d'amateur décrite(s) ci-dessous :

STATION(S) FIXE(S)		STATION(S) MOBILE(S)	
Nombre	4	Nombre	
Marque	Icom - Elecraft - FlexRadio - Acom	Marque	
Référence	IC 756 Pro - K3 - 6700 - 1000 (amp)	Référence	
N° de série		N° de Série	
Emplacement	Ile de Clipperton	Emplacement	
		Navire	

CLASSE 1 CEPT : Toutes bandes radioamateurs

Le titulaire de la présente licence s'engage à respecter la réglementation d'ordre intérieur ou internationale intervenue ou à intervenir en matière de stations radioélectriques d'amateur et à informer l'Antenne de la Polynésie française du Haut Commissariat de la République de toute modification apportée dans les caractéristiques, la composition ou l'emplacement de ses stations.

En outre, il devra se conformer aux conditions particulières d'exploitations indiquées ci-après :

Cet indicatif spécial temporaire est accordé pour une utilisation limitée à quinze jours sur une période de six mois (art. 4 de l'arrêté du 30/01/09).

INDICATIF ATTRIBUE : **TX5K**

Date de validité : 1^{er} février 2013

Date d'expiration : 1^{er} mai 2013

A Papeete, le 2-10-2012
Signature de l'intéressé :

Pour le Haut commissaire
et par délégation
le chef de l'Antenne de la
Polynésie française

Jean CHARTIER ANTE

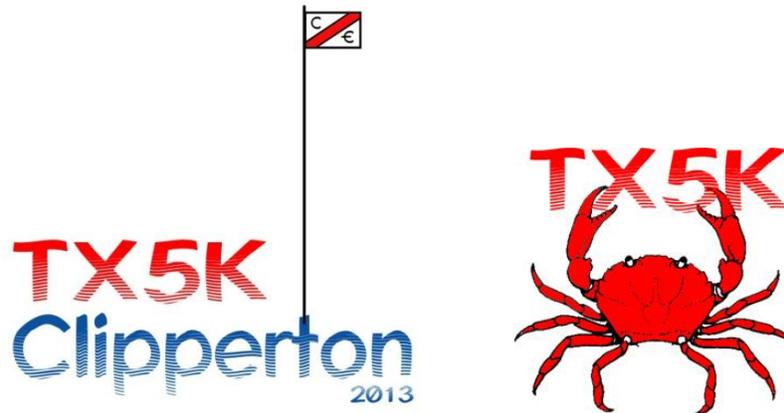


POST-EXPEDITION

SOUVENIRS

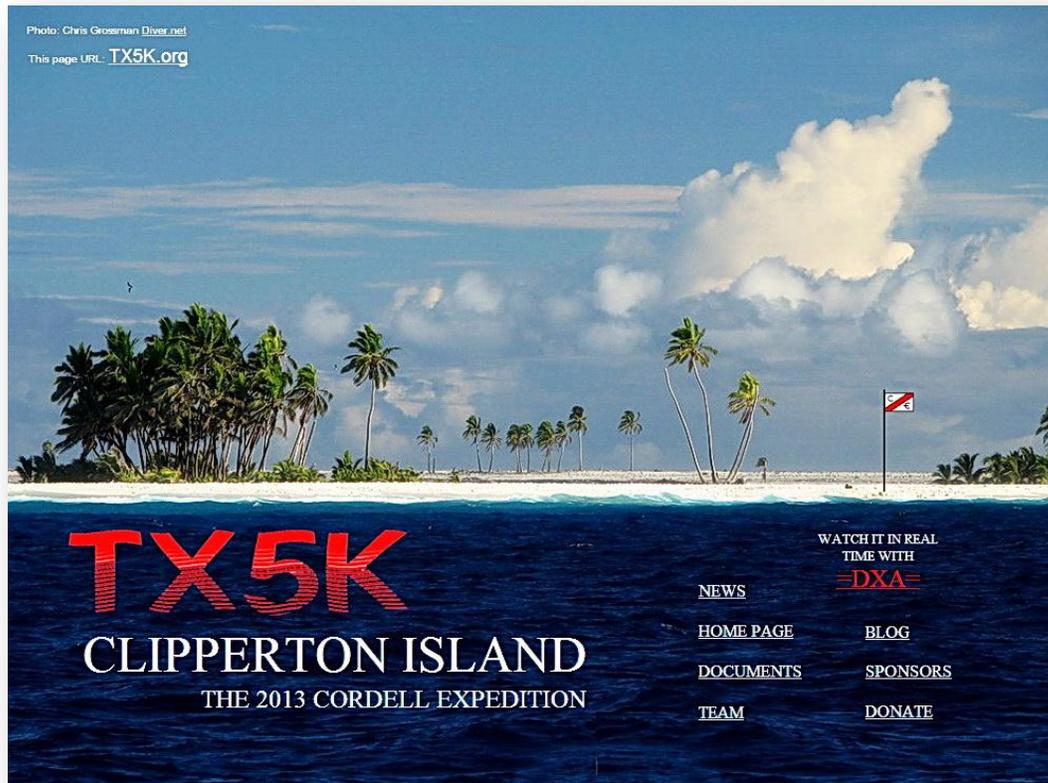


LOGOS



WEBSITE FOR TX5K

<http://www.TX5K.org>



QSL ROUTE

Bob Schenck N200
P.O. Box 345
Tuckerton, N.J. 08087
U.S.A.

<http://www.qsl.net/n200/history/qsl-n200.htm>

http://www.cordell.org/CI/CI_pages/CI_QSL_Manager.html



ESSENTIAL INFORMATION

Location: Clipperton Island 10°N 109°W
Website: TX5K.org
DXA: DXA2.org
QSL Manager: N2OO (Bob Schenck)
Blog: KY6R.com (Rich Holoch KY6R)

Onsite Team:

Jef Claes	DD2CW
Mathias Mueller	DJ2HD
Gerhard Richter	DJ5IW
Markus van Bergerem	DJ7EO
Heye Harms	DJ9RR
Christian Janssen	DL1MGB
Dietmar Kasper	DL3DXX
Andreas Paulick	DL5CW
Thomas Koglin	DL5LYM
Yann Weber	F1NGP
Giovanni Bini	I5JHW
Ed Cox	KE3D
Rick Royston	KF4ZZ
Robert Schmieder	KK6EK
LouPhi Loncke	LouPhi
Walt Wilson	N6XG
Carlos Nascimento	NP4IW
Kenneth Hemstedt	OZ1IKY
Robert Lusnia	SP5XVY
Igor Lazarev	US0VA
Roman Ganovych	US5WDX
Rick Collister	W7GJ
Michael Shapiro	WA6O
Dave Farnsworth	WJ2O
Luis Chartarifsky	XE1L
Chris Jost	CHRIS
Jean Morschel	JEAN
Ramon Gutierrez	RAMON
Christophe Basille	CHRIS

