DXxpedition Basics – 2013

Written by: Wayne Mills, N7NG

Table of Contents

About the Author

Wayne Mills was born in October, 1942 in Palo Alto, California. He obtained his first Amateur Radio license in March, 1953. He was given the callsign KN6ALH. Since then he has held: K6ALH, W7JFG, N7NG, ZL0AFZ, and 3D2NG, T32BT, ZA1A, P40NG, and FO0MWA. In addition, Wayne has operated many others, including FO0XX, 3D2AM, AH3C/KH5J, XF4L, ZS9Z/ZS1, 9M0S and V51Z plus BV9P, XZ1A, BS7H, H40AA, and TX0DX. He knows what it's like to be on the DX end of a pileup. Those of us who have worked him in those pileups know that he is one of the best!

Wayne understands both sides of a pileup. He started DXing in late 1956, while in Junior High School. For nine years his DXing was limited to 20 CW only. That's because his home-built gear didn't operate on any other bands. His school friends, K6ZJU and WA6AUE, were fellow participants in the DX chase, and they are still at it. Wayne spent most of the sixties studying electrical engineering at the University of California at Davis, California. He found some time to work the occasional DXpedition. He observed the deeds and misdeeds of the DXpeditioners of that time, and met the major players at meetings of the Northern California DX Club which he joined in 1964. Wayne is still a member of the NCDXC and a new member of the Utah DX Association.

In 1965 Wayne married his wife Margaret. (They have a son Arthur now 37, a daughter Katie, now 33, and two granddaughters.) Wayne and Margaret moved to Wyoming in 1972 to start a business. He was the owner/manager of two Motorola Two-Way Communications sales and service centers in Jackson and Pinedale, Wyoming. He ran these businesses for 28 years.

It was 1977 when Wayne applied for and received his present callsign, N7NG. His new business demanded most of his efforts and attention, but he found time for his DX passions. Then in 1983, he saw an advertisement in the West Coast DX bulletin for operators to go to Clipperton Island. He thought he might like to do that. Then he thought otherwise and forgot about it. During a Christmas visit to California, Wayne talked with old friend Bob Vallio, W6RGG. Bob asked if Wayne wanted to go to Clipperton. Wayne had thought about this before and immediately answered, "Yes". That trip ended in Manzanillo, Mexico with no boat. Wayne eventually made it to Clipperton with the FO0XX DXpedition in 1985, and a return visit in 1986.

That gave him a taste of "the other end." Like many others, Wayne wanted more of the same. A trip to Auckland Island (ZL9) with Ron, ZL1AMO, and Roly, ZL1BQD, followed in 1988, and he was invited by Martti Lane, OH2BH to join the Revilla Gigedo (XF4) group in 1989.

1990 was a big year for Wayne. He made two trips to the Pacific, Jarvis Island (AH3C/KH5J) and Conway Reef (3D2AM). In November he made his way to Africa on the DXpedition to Penguin Island (ZS9Z). The next year, 1991, Wayne was nominated by ARRL to be the American representative to the ZA1A education and operation project in Albania. (Since that time Wayne has always kept a bag packed for a quick getaway.) In 1993, he went with the DXpedition to the Spratly Islands (9M0S).

Since 1994, there have been several more DXpeditions. In 1995, Pratas, BV9P, Myanmar, XZ1A and China, BT0X and the Beijing International DX Convention. Scarborough, BS7H followed in 1997, Temotu Province, H40AA in 1998 and the Chesterfields, TX0DX in March, 2000. Several more contests fit in as well: PT5A and EA8BH in 2002, 5U5Z in 2004 and TZ5A in 2005. The most recent effort was Kosovo's Independence Day in 2008.

In 1995 he was named the DXAC Representative for the Rocky Mountain division. He then served as the DXAC Chairman for five years starting in 1996. He also participated on the so-called DXCC-2000 Committee that rewrote the DXCC rules in 1997-1998. In 1999, Wayne was inducted into the CQ DX Hall of Fame.

In 2000, Wayne "retired" to Newington, Connecticut to run the Membership Services Department (now PSC) at ARRL. At ARRL, Wayne was involved with the development of the Logbook of the World program, and along with the other department tasks, eventually did LoTW customer service in Newington for over three years. He oversaw the implementation of the DXCC Challenge award. He left ARRL in 2007.

In the interim years, Wayne has made a small mark in contests. He was part of the group at P40V that set the world record CQWW SSB Multi-Multi in 1988. In 1990 again at P40V it was a WPX world record Multi-Single followed by a Single Operator 20 meter world record in 1991. Wayne says that he still enjoys operating in the ARRL CW DX contest from Wyoming, but at home he considers himself more of a DXer than a contester.

Since 2011, Wayne has been involved with founding the DX University. A number of in-person sessions have been conducted and material has been developed for the DX University Website (www.dx-university.com) He has written for The WeeklyDX™ and since January 2013, he has been editor of the CQ Magazine DX Column.

Today, Wayne has been a member of the DXCC Number 1 Honor Roll for 22 years. (After he returned home from the teaching and operating project in Tirana, Albania, he worked his last needed country. That was on his birthday in 1991. The last country? Albania, and the station was ZA1A.)

What are Wayne's plans for the future? In his own words, I'll continue writing, and I'll be a little more selective when it comes to DX traveling, but I intend to keep at it for the foreseeable future, especially during the winter months... "

Chuck Hutchinson, K8CH

August 2013

FOREWORD

In the early years of the 20th Century almost everything was DX for most hams. Across town, across the country or across the oceans, everything was DX. When DXCC began in 1937, new DX was still plentiful. By the early sixties, though a few DXers had reached worked everything on the DXCC list. Soon after, many DXers began to look for something else to work.

Supply and demand began to take hold. Almost immediately, enterprising individuals began to activate entities that weren't regularly active. They also began looking for new entities to activate. Although there were a few radio trips to rare places in the late forties and fifties – Bob Leo, W7LR/Gatti, Danny Weil, VP2VB, and Bob Denniston, W0DX/VP2VI – the 1960s expeditions of Gus Browning and Don Miller were the real beginning of modern DXpeditioning.

Award chasing has driven DXing and DXpeditioning. Centered on numerous DXing awards, DXing is a dynamic pursuit. Today, many more award credits are possible. For many less-populated entities, this requires the activities of DXpeditions to provide the necessary band-credits. The expansion of DXpeditioning over the past 35 years has changed the DXing scene significantly, and the large numbers of DXers participating in these events can cause friction and disruption never before heard on the ham bands.

The original version of DXpeditioning Basics was published in 1994. Up to that time, a number of short sets of guidelines had been written suggesting how DXpeditions and DXers should operate to minimize disruption on the bands due to DXpedition operations. These guidelines were written as solutions to continuing and worsening disruptions caused by the increasingly popular DXpeditioning activity. Poor operating on both sides of the DXpedition pileups was nothing new, of course, but as activity waxed and waned throughout the sunspot cycles, an increasing need was seen for such "advice."

Modern DXpeditions have continued to evolve since the 1990s. The more recent trend seems to be very large, multinational mega-expeditions with at least one radio on each band, operating twenty-four hours per day, seven days for at least three weeks. This is not an unwelcome turn of events for the DXer. For those needing the entity on a number of band-modes, the pileups are spread thin so working these stations in a short time becomes relatively easy. One consequence of this type of expedition is that the demands on the individual operators are reduced. That is, less experience and expertise is required of the operators. We still see DXpedition operators experiencing increasing pileup difficulties however. There is still a need for better operator education – on both sides of the pileup. While the operators have somewhat lesser qualifications and the pileups can be a little smaller, the attitude of some in the pileups hasn't improved at all.

This updated version of DXpeditioning Basics continues the attempt to chart a path that will increase the order and efficiency of the modern DXpedition.

INTRODUCTION

The purpose of most DXpeditions is to 1) satisfy the DXers demand for country (entity) award credits, and 2) to do so in a manner that is fun for the audience – the DXers. The DXpedition members, organizer(s) and operators – the Team Leaders – are in the best position to make the DXpedition successful in this regard. If a DXpedition is not conducted in an acceptable manner, disgruntled DXers can and often will make life difficult for everyone. Intentional or deliberate QRM (DQRM) often results from poor DXpedition operating which, in turn is exacerbated by inexperienced DXpedition operators. In conducting a DXpedition pretty much any method of operating, which accomplishes the desired results would probably be considered acceptable by definition. We might also say that an acceptable operation would be one conducted in a more elegant manner.

In either case when an experienced individual, or a group of individuals, is entirely self -supported, owing no one, there is a large degree of latitude in conducting his operation and there isn't much we can tell him about how to operate and whom to work.

When DXpedition organizers accept contributions and support however, there is an implicit and maybe even an explicit obligation to conform to certain accepted operating criteria. Organizations which funnel money to DXpedition groups for the benefit of the DXing community have in some cases become more particular about whom they support. Their assistance often demands minimum standards of operating proficiency and may depend on the track record of the group. In some cases these organizations have not set standards for performance. (DXers should communicate their interests to these organizations). Regardless of whether or not a DXpedition group accepts support the operators should strive to conduct their operation in the best possible way. In either case, with or without financial support, strictly and comprehensively following some simple rules can go far in assuring on-the-air success of a DXpedition effort. With better operating on both sides of the pileup, DXers and DXpeditioner alike will have more fun, there will be less acrimony and bad feeling and DXers will be more successful.

The information presented here is neither new nor unique. After reviewing this material, some of us will feel that it is obvious or superfluous. Much of it has been published and read before. We have all observed however that in the "heat of battle" many of these principles are forgotten or disregarded even by some of the most experienced DXpeditioners - inexperienced expeditioners often remain oblivious. It is simply not sufficient to present these concepts in a summarized, bullet point form as has been done in the past. For this reason, considerable discussion is presented so that it is possible to study a point from a number of angles, rather than simply agreeing or disagreeing with a simplified concept.

Some DXers and DXpeditioners have said that pileup behavior has deteriorated greatly in the recent years. This observation needs additional perspective. To some extent pileup behavior has been chaotic for decades. No doubt it has scaled up as more DXers enter the fray. Yet, I can recall no worse operating on both ends of the pileup than a 1978 expedition to a rare Pacific island – and that was from a West Coast perspective, close to the center of the action. There have been several other "notable" operating disasters before and after that operation. I recall discussing these situations with a customer who was a clinical psychologist back in the late 70s! His discussion didn't add much to my knowledge but the fact that I sought his input indicates to me that it was a serious problem that far back. Indeed, reading articles in QST going back to the beginnings of DXCC indicate that to some extent these

problems have always been with us. Today, with more DXers chasing more band-countries, the problem is very likely a matter of scale; too many people on the same frequencies.

Adding to these spectacles were many factors including the rarity of the country being activated, the size of the pileups and the propagation – particularly to Europe. But make no mistake: In my view the ability and experience of DXpedition operator is by far the single most significant element in determining the character of the pileup. In fact, many people agree that the DXpedition operator is largely responsible for pileup conduct.

In his book, "Where Do We Go Next", OH2BH states: "Every DXpeditioner should always carry with him that Magic DX Mirror to look at sometimes. The pileup accurately mirrors the DXpedition operator who runs the show. Often, the operator may look like his pileup, at least when the game is about to be lost."

So in a sense, pileups tend to reflect the DXpedition operator's skill. It is the DX operator who has the greatest power to control the pileup. A perfect operator will not have a perfect pileup; there is usually a degree of intractable or even untoward factors. But if he/she fails to exert the customary best practices, the result is almost always chaos.

In recent years DXers have come more and more to expect superior operating on the part of all DXpedition operators. Unfortunately this hasn’t always come to pass. Some funding organizations recognize this and have addressed operator capability in their application criteria. DXers expect a good QSO rate. They expect consistency. They don’t want to be asked to refrain from tail-ending, only to hear the DX operator accept a tail-end caller. Most serious DXers know the basics of how to operate correctly. They may know how to operate only at their level but they usually know the basics of what to do and what not to do to avoid disruption. But whether in the heat of battle they practice what they know is another matter. Occasionally, forgetting what they know or attempting to gain an advantage, these DXers will be tempted to try tactics unworthy of their skills. If unchecked they will gradually try all of the various unsavory techniques until they are rebuked and even then they may continue. In the end it is the “guidance” of the DXpedition operator that can lead them astray or keep them on the proper path.

There is no argument that a few operators will show up on a DXpedition frequency with the intent to Deliberately QRM (DQRM). People who have disrupted some specific activity might be either pathological individuals with some particular ax to grind or have been more recently frustrated by other DXers or a DXpeditioner. Their numbers are small and they can generally be handled without significant disruption to the operation. Later, we’ll discuss some of the techniques that can work around these situations.

In recent times a small number of DXers have taken exception to poor operating practices by DXpeditioners, claiming to have superior skills, and in some cases causing intentional QRM and general disruption in protest. There may be the wish that this intentional QRM will punish the poor DXpedition operators. While this is certainly not acceptable behavior it highlights the problem and also points toward solutions. DXpeditioners must be capable of operating in a manner that will discourage these tactics: they must refrain from using procedures that encourage poor operating on the part of DXers. A large part of the solution to intentional QRM problems is for the DXpedition's own operating standards to be far above any kind of criticism. Operating at this level might be difficult but at the same time it is not impossible and is certainly a worthwhile goal.

As mentioned earlier, learning a few simple rules can go far in assuring the success of a DXpedition effort. Implementing this information in the heat of battle might be difficult however. Inexperienced

expeditioners are probably oblivious. In DXing and perhaps more so DXpeditioning, there seems to be a significant amount of egalitarianism in which DXpedition operators believe they know inherently how to accomplish the task at hand and that additional learning is unnecessary. Despite glowing comments to the contrary a DXpeditioner who seriously studies the world-wide response to his latest expedition might be surprised to learn that not everyone thinks that his performance was the "best ever." Many DXers will compliment the DXpeditioner on what a great job he is doing. This is most likely on a spotting network from a DXer who just worked the expedition. As Cass(1) used to say: 'If you worked it, it was a great expedition. If you didn't it was the worst ever.'

Without proper guidance DXers may try methods that seem effective but are actually disruptive: continuous calling, calling during a QSO, calling when the DX op has replied to someone else and so on. Without some push-back a bad scene often becomes worse. A competent DXpedition operator can quickly control a bad situation if he knows the necessary elements and how to use them. Throughout "DXpeditioning Basics" this is the most fundamental principle: Teaching one DXpedition operator to control a pileup is far more effective than trying to teach a thousand DXers to operate properly. We have all been told that the DXpedition operator is in control, that he has the power to control the pileup. Dealing with the DXpedition operator is far more efficient and effective than trying to lead the multitudes. But who teaches the DXpeditioner? There are cases everywhere you look to indicate that the message is not reaching the newer DXpedition operators.

Some DXpedition organizers seem to believe that expertise in operating from the DX end of a pileup is inherent, something that derives naturally from being a DXer. Other DXpedition organizers make great efforts to train their operators. Many times, however, little care is given to training operators to manage pileups. Furthermore, little care is given to selecting the best operator from among the group to run a particular pileup. Do all operators posses the unique ability to make sense of an unruly pileup of Europeans? DXpeditioning techniques often seem to take a back seat to logistics. For an expedition to exhibit exceptional operating and thus exceptional results attention must be paid to preparing the operators for what is to come. "DXpeditioning Basics" is about how to accomplish the task of preparing the DXpedition operator.

I have observed that many of the important DXpeditioning principles are frequently forgotten, unknown or even rejected by some of the most "experienced" DXpeditioners. Prior to the expedition they say: 'We know what we are doing' and then proceed to muck thing up. In many cases they believe they know what they are doing simply because in the past they haven't exposed themselves to serious post-expedition criticism. Self-education is not easily attained but this publication offers one approach.

OBJECTIVES

Any major DXpeditioning effort will necessarily have a number of objectives that need to be fulfilled. Identifying these objectives is an important task if the endeavor is to successfully proceed toward a satisfactory conclusion. This is strategic planning. Modern DXpeditions require considerably more effort and planning than in the past. This is primarily due to greater demand resulting from the expansion of multi-band, multi-mode awards, such as the ARRL DXCC Challenge. Originally, it was sufficient to work a “new one” but once. Later, it became necessary to make a QSO on ‘Phone. Finally ‘Phone, CW and RTTY were considered necessary, not to mention all of the individual bands. Now, the various digital modes have become so popular that they require equal effort. And, as DeSoto said in 1935 of more entities to work: “This [list] has the added advantage…of creating a long list…and who will fail to find that an attractive feature?” DXpeditioners must be up to the task.

HAVING FUN

"Good grief! It's just a hobby!" OK, it's only a hobby, but it can also be pretty serious competition when an opportunity exists to work one of your last counties, which hasn't been on for ten years, and won't be on again for another ten years. Therefore, everyone having fun isn’t always the best argument to use in persuading DXers to behave in a satisfactory manner. Still, it is important to have fun. DXpeditioners want to have fun, and generally they want DXers to have fun as well.

We will start with the premise that the overall objective of the DXpedition is for DXers around the world simply to enjoy the effort. We also need to consider the DXpeditioners themselves. With a few exceptions, no DXpeditioner ever expects to profit from his DXpeditioning activities. Considerable expenses are incurred, primarily in transportation costs and loss of employment income. This is a fact; chiseled in stone! Therefore, without compensation, the DXpeditioners will also be trying to have fun. It’s also important to understand that – let’s face it – DXpeditioning is an ego trip, perhaps more so these days.

Putting as many QSOs or unique callsigns as possible in the log is an important goal. As a DXpeditioner, putting a QSO in a DXer’s log is not more important to me than someone else's enjoyment, it’s part of the enjoyment. But, I am sure that many DXers in the end determine that the objective of getting their QSOs recorded in the DXpedition log is more important than someone else's enjoyment, so this needs to be kept in mind. If a particular DXer doesn’t make it into the log, he’s not a happy camper. So, when a DXer from a “target area” compliments you on a great expedition, he's having fun, and so am I! Determining after the fact how it all went by surveying the “audience” can be a worthwhile if perhaps surprising exercise. At the end of the day, if you wonder how successful your expedition was, you might be in for a surprise.

LOGISTICS

In planning a DXpedition, an early consideration will be the scope of an operation. As noted, the size and scope of most major DXpeditions has grown significantly in recent years. In the last several decades, money has been available for larger and more comprehensive expeditions. To a large extent funding has been driven by the increasing rarity of many DXCC entities and the ability of the DXing community to support greater expenditures. Decades ago, many of the now rare entities, the Pacific and

Indian Ocean islands for example, were activated regularly by government employees manning weather stations or remote military outposts. With budgets shrinking and more advanced technology being used to replace technical manpower, less government money has been available for staffing these outposts. As a result, DX QSOs with these entities have been less frequent. As the activity from these entities diminished, they began to climb in the most wanted lists. DXers have responded with increased support to facilitate the desired activity.

Other changes have occurred. Many of the entities on the DXCC list are in areas that have been recognized as environmentally sensitive areas. Activating these areas now requires complex and expensive permissions, which in turn results in less frequent access. This begs for longer and more complicated activations. Again, DXers have so far responded with the necessary funding to make activation of these entities possible.

As a result of these changes, individual DXpeditions at the beginning of the 21st century have tended to be larger, more comprehensive, and far more expensive than in the past. They require considerably more logistical and operational planning. Because the demand and expense is greater, an operation will pack more operating and technology into a single expedition. The expanded operation in turn requires more technical planning, more hardware and software.

OPERATING

DXpeditioning Basics focuses on operating, however. Since the on-the-air persona of a DXpedition is defined by the expedition's operators, careful attention should be paid to their operating and how it is viewed by DXers. It is critical that any significant operation should include at least one well-qualified DXpeditioner capable of supervising the operating and making adjustments as the expedition proceeds. This topic will be explored in depth in subsequent chapters.

SETTING GOALS

After having fun, one of the most important objectives will be to work as many stations on as many bands and modes as possible. To be successful, this must be done in a satisfactory manner. DXers should feel that the entire operation was fun. One measure of how well an expedition has succeeded in meeting its objectives will be the total number of QSOs it records in its logbooks. But this measure alone may not tell the whole story. It may be that the country is very rare – perhaps a new one on the DXCC list – in which case it will be most important to work as many different stations as possible. If the location is less rare, it might be more desirable on CW, RTTY, the WARC bands or some other band/mode combination. It may well be that the country being activated is particularly rare in one part of the world or another. In this case it is important to target certain geographic areas or population centers for a concentrated effort.

To be successful, a DXpedition must also carry out its on-the-air objectives in a satisfactory manner. If it isn't fun for DXers, much of the glory will disappear. It is important for the DXpedition members to understand that they hold the primary responsibility for the conduct of the on-the-air operations. It is not useful to blame DXers for a bad or worsening pileup.

It is important to clearly define the goals for the expedition: to work as many different stations as possible, to target difficult areas, and to conduct operations in a satisfactory manner. Goal setting is fundamental, although the nature of the goals will depend heavily on the particularly entity being activated.

In 1990, Penguin Island had only been activated for a limited time. Few DXers had even one QSO with Penguin Island in their logs. In planning the operating for that trip, knowing that we were limited to eight days of operating, two stations and four operators, we decided to limit our operation to as few bands as possible. In fact we had a TH5DX antenna high on the top of the island and a ten-meter monobander. Operating near the peak of the sunspot cycle, the plan was to operate as much ten meters as possible during the entire trip, thus eliminating as many "band dupes" as possible. Since this was only the second operation ever made from this potential country and since only about twelve thousand QSOs had been previously made we felt that there were still many DXers who were awaiting their first QSOs.3 In the end we were able to boast a two-to-one total QSO to different callsign ratio. More DXers were able to claim a Penguin Island QSO even though some might not have been able to make their customary twenty-five band-mode QSOs.

To plan DXpedition operating,

a) Determine the areas that have the greatest need for the country and pay special attention to propagation to these areas. Work them at all times when propagation allows.

b) When resources, time and stations are limited, and depending on the rarity of the country in question and the length of the operation, it may be desirable to minimize the number of different bands on which the operation is conducted. This will maximize the number of different callsigns in the log.

c) Properly executed QSO mechanics and pileup management will optimize the number of QSOs in a given period of time. Make sure the operating team is well versed in good pileup technique. This is not an innate skill.

ORGANIZATION

PLANNING

Preparation for an expedition should start with a management plan established by the organizers. This plan should assign responsibilities for transportation, logistics, and operating to specific members of the team. Those assigned these responsibilities should be particularly capable of performing their duties. In addition, it is important that all of the team members be aware of who is responsible in each area. (Reference: DXpeditioning Behind the Scenes)

The next and nearly as important function of the organizers is the selection of operators. This will be crucial to the success of the DXpedition. Ideally, a minimum of two operators should be available for each station. Station requirements will, of course, depend on the available bands, the status of the sunspot cycle, and the location of the operation. The operators must be capable of operating in an acceptable manner as well as being able to perform other important logistical functions. Equally important, the operators must be capable of working as a team rather than as a group of individuals. For the most demanding DXpeditions, no person should be selected who cannot perform both logistical and operating functions unless there is no limit on number of people in the group. Once the operators are selected, the necessary transportation and logistical plans can be made.

An expedition can be organized around a particular transportation opportunity, or it can be organized based on the manpower necessary to fulfill certain operating objectives. If an expedition is being designed around a particular transportation opportunity, it will be necessary to coordinate operator selection and logistical considerations which are consistent with this opportunity. This may be a less than desirable situation, but it may be preferable to no opportunity at all. While the size and duration of the effort may be defined by the available transportation, the other considerations still apply and the operator selection will still be the most important decision for the organizers.

If the demand – and available funding – will allow the means of transportation to be driven by other necessities – band, mode and operator requirements, for example – all the better. Greater demand for band and mode QSOs in recent years has resulted in larger and much more complex operations.

It should be noted here that an expedition could involve too many people. A large group may be necessary if the available operating time is short, or the demand large. In this case many operators, large amounts of equipment and supplies will be involved. Be aware that large groups of people may lead to personality conflicts and might more require careful personnel management. If too many operators are present for the operating requirements, additional problems may arise related to how much operating time can be allotted to each operator. If the duration of the expedition is controllable, more time with fewer participants might be preferable. It is probably true in most cases that transportation costs for expeditions to rare locations will depend on the overall size and length of the effort. More operators will require more supplies, more radio equipment, more antennas, etc. Therefore, a balance should be struck between the number of operators, the number of stations needed, and the available funds. A longer duration will also allow for variations in propagation, helping to ensure that solar flares and other propagation anomalies will not adversely affect the outcome. (Ref: DXped Behind the Scenes)

Make a management plan. Pay particular attention to operator selection. Pick operators for operating skills and other necessary logistical attributes.

Don't include more people than necessary. Too many operators increases expenses and may cause additional difficulties.

Once underway, monitor the progress and make sure the objectives are attained. Do not allow operations to continue unsupervised.

OPERATING STYLE

Led by the operating manager a discussion should take place among all of the operators prior to any operating. This is the time to consider how to handle the situations that will define the operating style for the expedition. This could be done on the boat en route to a rare DX destination when many hours of free time are available. "In the beginning, it is important to invest the best resources and throw them into the battle to gain the overall confidence of the audience. As time wears on, after several days of successful operating and the pile-ups get thinner, the operators with a more leisurely style will be needed to relieve the operators weary from the early days." This quote from the operator's handbook for the South Sandwich Island Expedition of 1992 suggests the type of operations management, which is necessary for a successful effort. Despite terrible environmental conditions, this expedition was a success because of proper operating management. Operating issues and tactics should be discussed in the context of a managed system. Even the best operators should not be allowed to proceed in their own directions.

The best-made plans are worthless if they cannot be executed effectively. This includes operating. Once operating has begun, it is important that the responsible team member – the operating manager – take an active role by making an operating schedule, monitoring the team's progress, and putting together an overall view of the results. He should track the number of QSOs made with the various population centers and adjust the operating schedule accordingly. He should make certain that the proper operators are working each opening while balancing the operating time for each operator.

Some operations have used individuals located in various parts of the world to coordinate DXer input aimed at helping the DXpedition team cater to individual suggestions and complaints. These individuals are usually called "pilots." Whether the pilot system is helpful is questionable. Listening to individual complaints seems problematic. It might be helpful to entertain outside input, but it is probably most useful for the DXpedition operating manager to study the logs and make his own decisions, based on all of the data. Modern data-processing makes it possible to look at the whole picture, rather than selected comments, mostly from people who have been less than successful, for whatever reason. Allowing folks to weigh in may help to make them feel better, but in reality most inputs are not useful to the DXpedition.

Often expedition personnel may be of different skill levels. It can be useful for the operators to share ideas concerning how to handle the DXpeditioning basics. The basics include who to work at different times of the day in terms of target areas that have been defined, where to transmit on each of the amateur bands, how to control the size and nature of the pileups as well as were to listen and how best to handle the pileups. These considerations have a major impact on the perceptions of the audience. In this respect it is important that the operating be managed as a system since it is extremely difficult to accomplish the expedition objectives if operators act independently. Operators should not be left to their own individual resources even if they are all highly skilled. A coordinated approach is absolutely necessary for best results.

Special attention should be paid to what has been termed pileup management. Pileup management

generally refers to the organization of those operating techniques that work well in controlling the operating situation. Mention should be made of how self-identifying will be handled, how unruly calling will be managed as well as communicating to the audience where and how to call.

QSO mechanics is another topic that must be addressed during the pre-operation discussion. Proper QSO mechanics refers to the procedure that should be used to ensure that each operator contacted by the DXpedition is sure that he is in the log. This is a crucial issue, and addresses the very reason DXpeditions are conducted. These issues are discussed more extensively in succeeding sections

FREQUENCIES

Operating frequencies for the various bands should be determined and publicized prior to the expedition. One might argue that Skimmer and RBN technology makes advance announcement of DXpedition frequencies obsolete. Perhaps it does for some DXers. Still, finding a DX station on the announced frequency even before the RBN stirs the crowd can be exciting. Once spotted however, the RBNs and Skimmers will allow the DXpedition operator to shift frequency as necessary due to QRM. DXpedition operators should favor small deviations from the announced frequencies – 100-200 Hz – when interference causes difficulty.

DXpedition frequencies should be selected according to the requirements dictated by the area of the world in which the operation is taking place. For example, in theUnited States, only Extra Class operators are permitted to operate CW below "025" on eighty, forty, twenty, and fifteen meters, so listening frequencies should be designated accordingly. In other areas of the world, frequencies as high as "025" on eighty and forty may be useless due to commercial and pirate QRM. In various parts of the world, authorized eighty and forty meter transmitting frequencies differ. Topband (160M) assignments vary widely around the world, so special attention should be paid to them. Exact kHz frequencies should be avoided on 160M because of broadcast birdies.

The expedition-transmitted signal must be heard and therefore its frequency on each band should be the best choice based on listening conditions in the most important areas. Select bands that will facilitate contacts with the target areas. If propagation is limited, use several stations on the open bands. Once the frequencies are selected they should be adhered to as much as possible. This is important because DXers must be able to predict where a DXpedition will appear, especially when they are weak. When an expedition operates consistently on advertised frequencies, DXers can more readily identify the DXpedition, which in turn minimizes questions about "who is the DX?" and adds to the air of confidence surrounding the operation.

We will discuss in a later chapter how proper pileup management can minimize the effects of jammers and deliberate QRMers (DQRM). An additional tool that can be used by DXpeditioners is simply moving the transmitting frequency slightly from time to time. In addition, alternative transmitting frequencies can be used when necessary, particularly on SSB. Where legal, transmitting on two different frequencies simultaneously can be an effective means of avoiding intentional QRM. These alternatives should be widely publicized.

OPERATING MANUAL

In laying the groundwork for a successful operating effort it is advisable to prepare an operating manual for the expedition. Writing an operating manual helps the operating manager organize his thoughts and allows the operators to become familiar with the plan at their convenience. The operating

manual should outline the methods of operating considered appropriate for the expedition and contain many of the suggestions considered in these pages. In addition, it will document material specific to the expedition's destination that the operators will find useful during the operation. Information such as a great circle chart, propagation prediction charts and statistics describing the relative DXer populations in various parts of the world should be included.

EQUIPMENT

Several aspects of logistical planning can significantly impact the operational character of an expedition. Prior to embarking upon an expedition special attention should be paid to determining what equipment will be needed. Particular attention should be given to those logistical areas that will yield the greatest signal strengths to the major target areas. As one famous DXpeditioner has noted "You have to be loud". Good antennas are an important factor in being able to work the smaller stations and as much power as permitted should be used. They (the small station operators) will be proud of themselves for being able to work the expedition with their peanut whistles and dipoles and no one will tell them that it was really the expedition planners who mandated big amplifiers and large antennas that deserve the credit. There is no question about how much being loud can add to the quality of DXpedition operating. Experience has shown that there is something like a 1/R relationship between a DXer’s success and the distance to the target. A good deal of improper operating in the pileup and around the DXpedition frequency can be reduced or eliminated simply by adequate strength of the signals on both ends of the pileup. Therefore, good antennas and high power can assist greatly in the success of an expedition.

Recent developments in clean radios along with proper placement of antennas will often allow several signals on the same band. These radios might even allow several signals on the same mode, taking advantage of limited propagation to certain areas. High power where possible, leading to a dominating signal, can also be an aid in controlling pileups. The 1993 9M0S expedition to the Spratly Islands was able to overcome the expected poor propagation to the eastern U.S.A. by placing two Yagi antennas side-by-side while facing the U.S.A. This orientation minimized the interaction between the two stations and allowed the two FT-l000Ds to operate on twenty meter SSB at the same time. In 1989, the XF4L operations from Revilla gigedo showed up one night with a total of five signals on twenty meters at the same time! Reports of pirates were heard, but placing stations at various locations allowed five signals on the open band with no interaction.

OPERATOR COMFORT

During the planning phase operator comfort should be considered. It's not much fun sitting on a driftwood stump, writing on a makeshift table. It doesn't promote effective operating either. Wherever possible, adequate furniture and housing facilities should be provided for best results. Remember, the expedition operators expect to have fun too! Bedding should be provided for each operator for maximum productivity. On Penguin Island no beds were provided and only blankets were brought. The floor of the operating house became very hard, and the very limited sleeping time was poorly used. Be aware of the environment and provide adequate shelter for operator comfort and safety. Be sure to provide good operating tables, chairs, and a bed for each participant.

WHO TO WORK

INTRODUCTION

When a DXpeditioner sits down to work a large pileup one of the first things he must do is to determine who to work. Although he will likely begin by working anyone, this is not usually the best approach. The pileup will quickly become very large and unmanageable. It's better not to go there, even in the beginning. It might be possible to keep the pileup station density reasonable by allowing the pileup to grow indefinitely, but this is no longer an acceptable practice. The resulting "Band Trashing" should not be tolerated.

The pileup must be divided in order to limit frequency range that it occupies. Dividing the pileup makes it possible to work stations at a high rate and to make the best use of the existing propagation. "Who to work" asks how to divide the pileup should that be necessary. Eventually the DX op should work everyone. At the same time he knows that propagation varies, the number of DXers in a particular area varies greatly and the demand will vary according to the relative difficulty of propagation between the two areas. So, determining whom to work at a particular time is not a trivial task.

POPULATION CENTERS

The DX world can be thought of as consisting of three major population centers: Europe, Asia (Japan) and North America. For any DXpedition location, working at least one of these three population centers is likely to be difficult simply because of its geographic location. (It is important to note that a target area is not comprised solely of one country. That is, Asia is more than Japan, and North America is more than just the United States. Indeed, working North America would include working Central and South America.

The most difficult of the three areas is called as the "target area". Note that it is possible that there is more than one target area from some DXpedition locations. It is important to know where these population centers are relative to the DXpedition location and the size of the DXer populations within each area. A rough idea of the number of DXers inhabiting each of the countries in these population centers is important so that one knows how to allot the time targeting each area. For example, from the Pacific it is not enough to work only ten thousand Europeans out of one hundred thousand total QSOs. The operation should invoke all of its resources in order to take full advantage of each and every opening to the distant target areas.

It has been found that concentrating all resources on real target areas seldom lessens the chances of DXers in other areas of the world. Since propagation to the target areas is by definition poor, with relatively short openings, the desired number of QSOs with the target area is not usually reached even with strict adherence to targeting. Because of this, one or more of these areas will have a greater need for this DX location. It is also possible to define the areas with the greatest need with surveys, formal and informal.

PROPAGATION AND OPERATING SCHEDULES

Propagation predictions can be used initially, but observations of actual conditions should be made after the operation has begun. Often, operators unfamiliar with the propagation at expedition destinations will miss important openings and thousands of QSOs to difficult areas. Inputs from experienced DXers in the target areas can be used but take care in evaluating real time feedback from DXers still needing a QSO. As the openings are identified (and more openings may be found as the operation progresses) an operating schedule should be made which will ensure not only that the operators are active during the necessary openings, but also that the most qualified operators will work those openings.

Again, work only the target areas when the propagation permits. Every opportunity to work the target centers should be used in that effort. This is the most effective technique for balancing QSOs to all of the population centers. Those in the areas with better propagation will take care of themselves.

Notes from 1990: Around midnight one night during the Jarvis Island expedition (AH3C/KH5J), Martti, OH2BH came running to the CW operating site yelling that ten meters was open to Europe. We didn't believe him at first but since we were targeting Europe heavily we checked and found that indeed ten meters was open to Europe. We set up quickly and worked several hundred Europeans during that opening. Martti had been using a spare radio and antenna looking specifically for additional openings. When the QSL cards arrived, one from a YU station noted "it was noon and there was nothing on ten meters except noise and AH3C/KH5J.

Notes from 9M0S, 1993: One of our biggest challenges was attempting to work the east coast of the U.S. from Palau Layang-Layang, 9M0S in the Spratly Islands. Preliminary propagation predictions indicated that openings to that area would be few and quite short. As a result, we considered several options to maximize the number of East Coast QSOs. One option was to be prepared to operate several stations on an open band. I also considered making greater use of the WARC bands than had been done in the past. The propagation on thirty meters looked particularly good but as I promoted this idea prior to the expedition a question was raised among several DXers about whether there were enough DXers on that band to make a big effort worthwhile! Well! I guess if I am in a rare country and the best band is thirty meters maybe some resourceful DXers might even erect a simple dipole in order to make a QSO with the rare one! An open band is a resource to be exploited and in fact the WARC bands produced a significant percentage of the thirty five thousand QSOs from Layang-Layang. While many more DXers utilize the so-called WARC bands today, DXCC totals show that they aren't most favored.

DEFINING THE PILEUP

Ideally we would not have to reduce the pileup size by working call areas or continents. When the pileup is large, however, it might be best to divide the pileup by working call areas or some other subdivision in order to avoid excessively wide pileups. While DXers could certainly justify – in their minds – the use of the extra bandwidth by invoking numbers, it isn't really worth arguing. So, we it's probably best work continents or call areas whenever the pileup exceeds the desired band space. This technique also increases the DXers' perception (especially those with smaller stations) that they will be able to make the desired QSO. Working call areas tends to increase the penetration to a desired area since it allows a specific pileup to be worked down to a level where low power stations can be successful.

Do not try to work an area during poor propagation to that area. If propagation requires, maybe only certain areas should be covered during a particular session. Be sure that the callers are certain when you will return to working their area. Return to that area during a better opening. It is imperative that the

operator permits no noticeable exceptions to working the current call area. To make exceptions invites and actually justifies calls from other areas. If you think that DXers in the pileup aren't really listening, just work one zero when you are calling fours!

It is important to work all subdivisions that have been identified. If numbered areas are being worked, all of the numbers in an area should be completed before a major change in operation occurs. Stations signing with a portable suffix constitute a minimal problem. The issue of portables is discussed in the PROBLEMS section. If a station has used more than one portable you should ignore him. Otherwise don't worry about it.

It should be noted that it is possible to work call areas or other subdivisions on CW as well as SSB. It is necessary, however, to repeat the instructions at the end of nearly every QSO, since some will assume that one omission will be a signal that the designated area is being abandoned. This is necessary on SSB as well as on CW, but it is particularly important on code. On CW, it might even be useful to slow your sending while issuing instructions. Newer keyer memories make these speed changes very easy.

Prejudices about certain groups of DXers on the part of a DXpedition operator should be suppressed. There is no typical European DXer, for example. Europe is a widely diverse region. To dislike "European" pileups is simply a failure to understand the problem and how to deal with it. The operator's approach to those DXers in a pileup may be the most important factor in how a situation is handled. A serious problem may result from a poor attitude on the part of the DXpedition operator. There is no good pileup or bad pileup. Working the Europeans just as smoothly as working the Japanese is possible since the pileup's behavior accurately mirrors the DXpedition operator who runs the show.4 The most experienced DXpedition operators know that it is they who are ultimately responsible for the character and perception of the operation.

WORKING EVERYONE

An assumption has been made to this point: that everyone interested in working an expedition will be able to do so if the expedition operators are efficient enough and manage the operation properly. There is another concern, however. There exists a group of DXers who simply lack the experience or the necessary equipment to work a rare DXpedition under the usual circumstances. Therefore, some thought should be given to what might be done to accommodate as many of these DXers as possible.

Perhaps the most important consideration is the total amount of time allotted to the expedition. If time is limited and even experienced DXers are finding it difficult to make a QSO then the inexperienced must just fend for themselves. It makes little sense to slow a CW operation to twenty words per minute to accommodate those who are not capable of copying thirty two words per minute, if it is, at the same time, possible to work nearly twice as many stations in the same amount of time. Alternatively, however, those who lack the skills to work a split pileup or simply prefer to work in a net environment might be accommodated in other situations where sufficient time, operators and equipment are available.

The advent of no-code licenses has likely increased the use of electronic code-readers to facilitate DX operation on CW. Code readers vary in their effectiveness. Some are better than others. Having anything but best possible knowledge of what is going on in a DX pileup will cause some difficulty to the individual DXer and other DXers in the pileup. On the other hand who among us is willing to say that a DXer interested in trying CW operation should not do so with the assistance afforded by a code reader. We can hope that these individuals will persist and increase their CW skills in time.

In any case a complete DXpedition should consider the needs of all interested DXers and attempt to provide QSOs for everyone. CW QSOs can be made in the General-Class segments of the U.S. CW bands, especially on forty meters. Slower code can be used later in the expedition when the overall hourly QSO rate drops. SSB QSOs can be made with general class DXers by listening in the appropriate band segments. However, the overall goal should be to contact the largest number of different stations possible, and under no circumstances should the DXpedition management allow less than the most efficient form of operation.

As mentioned earlier, this discussion presumes that the large DXpedition may be relying on at least partial funding support from a DX-oriented group or groups which have responsibility to contributing DXers, in which case certain funding conditions apply. It goes without saying that if a DXpedition group is entirely self-supporting it is responsible to no one and may proceed accordingly.

PILEUP MANAGEMENT

STUDYING THE PILEUP

More than any other element a successful DXpedition depends upon the on-the-air face that is presented to the DXing public. For that reason this chapter is really at the heart of "DXpeditioning Basics". There are other aspects of the DXpedition that are very important: team selection, logistics, planning and all of the other elements to some extent support the on-the-air operation. But no matter how well the other elements are implemented, if the on-the-air operating fails to be effective and fails to leave everyone with a good impression, the expedition will be less success and more failure. The audience must be satisfied, the critics must be happy and the reviews must be good. Nothing else matters in the end.

Of course we recognize that "it takes two" to make a good QSO, and it takes many "twos" to make a successful DXpedition. The operators on both ends of the QSO must do their respective jobs well. Whether we know it or not we are all well acquainted with the results of poor operating. There are many continuing efforts to educate the masses in the finer techniques of DX pileup operating. Books about DXing abound.

For the purposes of this publication, however, we will assume that the most efficient way to smooth the operating road is to educate the DXpeditioner. One educated DXpeditioner is worth 1000 DXers. We could say that there are many more DXers and for that reason we should concentrate on teaching them how to operate properly - that educating a hundred DXers will have more effect than educating one DXpeditioner. But, because the DX operator has such definite influence over the callers, he has much more power than we might initially think. Therefore, the premise here is that it is more effective to teach him/her the techniques that are available to control the pileup satisfactorily. I firmly believe that the pileup is a mirror reflection of the DXpedition operator. If he is successful the pileup will conform and the expedition will be much more successful. If not, there might be disaster.

SPLIT OPERATION

When many stations are calling it is virtually impossible for the DXers to hear the DX station call one of them if they are all calling right on the DX frequency. For this reason it is necessary for the DX operator to listen on a frequency significantly different from that upon which he is transmitting. This is called split operation and is basic to working rare DX. Split operation gives rise to several problems that will be discussed later. Same frequency (or "simplex" or "co-channel") operation is possible and even desirable under certain conditions if the pileup is not large. With a large pileup, however, split operation is absolutely necessary. I is not necessary, however to appropriate huge segments of the DX bands. It would be only under the most extreme conditions that it should ever be necessary for the DXpedition operator to listen to a range of more than about 30 kHz on SSB and about 10 kHz on CW. Usually, 15-20 kHz on SSB and 8-10 kHz on CW should be adequate.

A DXpeditioner, perhaps on his first expedition, once wrote at length in the subsequent article that he thought working split was entirely unnecessary. He noted that it was unnecessary to disrupt a large portion of the band, and that he was entirely successful working the DXers on his own frequency. Quite simply, if you are able to work a pile on your own frequency with a decent rate, that is wonderful – do

it! It is clear, however, that in his situation the pile was not large enough to need split operation. Working a pile on your own frequency is indeed preferable but it is simply not possible with a large pileup – even a well-disciplined pileup!

Sometimes a DXpedition operator may not realize how large a pileup he has or might create. Not wishing to disrupt the band, or not expecting a large pileup, he will begin by working stations on his frequency. This will cause at least temporary chaos. In some cases the DX operator cannot hear a distant pileup. This occurs when there are many small stations calling that are not heard at the far end of the circuit. If he continues to listen for callers on his own frequency he will create a situation in which he can only work the strongest stations on the band and even those stations might have difficulty. It is important therefore for a DXpedition operator to realize that he is likely to have a large pileup and that he should work split from the beginning of his operating session.

PAVLOV: HANDLING POOR OPERATORS

In managing a big pileup there are a number of techniques that the DXpedition operator can use to maintain control of the callers. One technique, which is common for a large pileup is to actually use the whole listening range to work stations. While this might seem obvious it is amazing to me how many DX operators do NOT use the whole space. They define the space and they relay this information to the callers but they sometimes then do not use all of it. The space should not be excessive, but the DXpedition operator should use the full expanse of the designated space.

Sometimes a DX operator will say I am listening ‘up five to ten’ but actually stay almost entirely on one single frequency. He might say “Please spread out” and then continue to listen on the same single frequency. He might even beg via the Internet to “please spread out” and STILL listen on that same frequency. It takes only a few QSOs for most of the callers to realize that this is the case, and the poor DXpedition operator then has to deal with an impossible situation.

A good DXer will not only determine where you are listening but will find out where you will likely to be listening next. The trick of course is to create a routine that keeps even the wiliest DXers guessing. If your pileup needs spreading, you can listen alternately at three or four spots within the listening range. Listen at the low end, listen at the high end and then listen in the middle. Repeat this sequence several times and the pileup will be spread out. This technique is very simple but not always used.

You can also specify individual frequencies directly. You can say “no one is calling on 14.206.” On CW you can say “TU 63.” This means simply that I am listening on 21.063 kHz. Amazingly, it is likely that very few DXers will pick that up quickly and you might be able to make three or four Qs before the crowd realizes what is happening. It is extremely important to find a good procedure and use it consistently. On the other hand you are not required to use the same technique at all times. You are always justified in doing what is necessary to define and manage your pileup effectively.

Many DXers have no idea how much the DX operator hears and remembers in the pileup. I can remember working “fours” from a very rare place once. I heard a number of threes portable four. I remembered that I had heard them while I was working threes so I didn’t work them again when doing fours. Later when working fives two of them were now signing portable five! As Professor Cassidy once said when describing this exact same situation “Superman lives,” moving effortlessly from call area to call area in only minutes. I am pretty sure that they wouldn’t be doing that if they had any idea that the DX operator had noticed.

Another behavior that shows up frequently is the Continuous Caller, the DXer who calls every time you

stop transmitting. These guys stand out in the crowd. (Instead of calling continuously he should be looking for the station that you just worked). Consequently, however, these operators are very easy to avoid. In fact one of the keys to good pileup operating is to understand that much of the bad stuff that goes on in a pileup can be easily avoided. The DXpedition operator simply needs to move his listening frequency. There is no need to become upset at this type of activity - simply avoid it. In general, what the DXer hears is often much worse than what is heard by the DXpedition operator.

In addition it is important not to encourage or reward poor operating on the part of these callers. We should never respond to them. Keeping a public “black list” for some of the worst offenders has been done but does little for the cause and probably stirs up more animosity than anything else. On the other hand one technique for controlling poor operators is simply a hidden black list. That is, the offending operator is simply ignored until he exhibits the proper procedure. This is the Pavlov technique.

WHY DXERS CALL OUT OF TURN

To some extent calling out of turn is a DXer-side matter rather than one of pileup management. There are methods of operating that can help control this aberration, however.

PILEUP DYNAMICS

When it appears that the pileup is going to be large and split operation has been selected as the operating mode the methods by which stations will be selected from the pile should be considered. Some methods are more effective and lead to higher a QSO rate that in turn leads to fewer policemen and jammers. These methods also lend themselves to greater satisfaction on the part of the callers. The method or pattern of this change in listening frequency is called pileup dynamics.

In a large pileup, it usually will be necessary – and desirable – to move the listening frequency following each QSO. We alluded to this earlier as a method of spreading the pileup over the desired range. But it is also an important method of operating within the pileup once the range is established. If the listening frequency is not moved at least a small amount after each QSO, a large number of stations will find the frequency of the QSO and call there, making identification of the next station difficult. Working stations on the same frequency one after the other is very difficult because the signals might all seem the same strength, often very weak. It always amazes me how much louder a station sounds when it is in the clear compared to when it was part of a pile of nearly equal strength signals. This is often a characteristic of Automatic Gain Control (AGC) settings.

Initially the DXpedition operator should inform the callers of the range of frequencies over which he will listen: “I am listening up five to ten kHz”. This is important because listening only “up five” will be eventually impossible because there will be too many callers on that frequency. Some of the callers will continue to call up 5 kHz for hours! Saying “up five” usually means listening up at least five. Conveying this is easy on SSB, more difficult on CW.

It is extremely important that the operator actually move his listening frequency according to his own instructions. When signals are strong it is possible to work most stations within a few hundred Hertz of each other, minimizing disruption and maximizing the QSO rate. If the operator has a situation of too many callers on the same frequency, it is because you have not properly spread them out. If he simply asks the pile to spread out but then continues to listen on the same frequency the pile will not disperse. The operator therefore must change his listening frequency in a manner that will define the range of his

pileup. He may then move his listening frequency up or down following each contact until he finds a station calling on a relatively clear frequency. The operator may announce several frequencies within the desired range.

Whatever the method the operator should follow some sort of pattern that can be discerned by the calling stations. A wide ranging, random selection of receiving frequencies only leads to frustration on the part of the callers. After the pileup is properly defined the operator should frequently announce the listening range.

RHYTHM

It often appears that no one in a pile is even listening to the DX station. Everyone seems to be calling continuously, making it extremely difficult for the DX station to complete a QSO. The reason for this difficulty is usually a lack of rhythm in the sequence and timing of the DX station's transmissions. Assuming that a callsign can be extracted from the pile in a reasonably short time, a steady rhythm will help to ensure that most callers are calling and then listening at approximately the same time.

As we finish a CQ or as we complete a QSO let's assume that everyone is actually listening. Following that first call, ideally, everyone calls once and then listens for a reply. If the DX station operator is successful in picking out a call and begins a QSO a high percentage of those who were calling will hear the QSO commence and not call until it has been completed and a second call is solicited. If the DX operator can continue this rhythmic procedure those calling will be somewhat synchronized: calling and listening, calling and listening.

At some point however if a callsign is not identified quickly enough, those calling will probably call again. Considering the different length of various callsigns and the different times between calls the pileup will begin to spread in time until eventually there is what appears to be continuous calling with less chance for the DX station to be able to complete a QSO with the station that he finally selects.

Therefore it is very important that a DXpeditioner be capable of picking out a callsign from the pile and getting the QSO underway (by sending a report) within the time it takes for a caller to send an average call and then decide to call agan. This is so important that an experienced DXpeditioner will sometimes pick a dummy partial callsign that he doesn't even hear, just to preserve the rhythm. This procedure may even result in a QSO.

On the other hand, such a procedure often involves calling a partial call sign. This requires at least on additional exchange. Rather than coming up with something in a very regular fashion, there are advocates who suggest waiting just long enough to copy the complete callsign of a caller who repeats his callsign. Again, if this process takes too long the pileup will disperse in the time domain. Under certain circumstances, it is possible to operate at a greater rate if you wait just a little longer to copy a full callsign, rather than having to make additional queries to get the full callsign. Adapting to the situation will yield the best results.

A relatively recent phenomenon is when a DX station fails to wait for the end of the caller's callsign, instead beginning the QSO before the caller has completed his call. This serves only to create confusion and care should be taken to avoid it. The reason behind this is unclear, but it is becoming more and more common. The DXpeditioner should take care to ensure that the caller has completed his call before replying. This should take only less than a second.

CONVERSATIONAL STYLE

A somewhat unique method that has been used successfully in managing SSB pileups is the conversational style. Using this method of dealing with the pileup, the expedition operator establishes a friendly relationship with the pile by speaking to it and as a result is able to control the situation by communicating important information to those calling. By knowing what the DX operator has in mind and what he is likely to do the DXers are made to feel at ease and to sense that their expectations of working the DX will be fulfilled.

Bits of information, such as how long the expedition operator will spend on each call area, why he is working a particular area, to what frequency he will QSY, or when he will QRT, can be easily conveyed. Primarily, however, this technique establishes a positive relationship with the pile, and that is its main feature. Rather than slowing the rate at which QSOs are logged, the time invested to make these (brief) remarks creates a valuable payback.

TAIL-ENDING

No doubt about it, tail-ending is an art – an almost vanished art. With considerable experience a DXer can determine the exact instant at which to insert his call during the last segment of a previous QSO in order to "jump the queue." If this technique is properly done it works very well and is beautiful to hear. If it is poorly executed, it can make the caller look bad and can temporarily disrupt the operation. Proper tail ending technique is described in detail in "Where Do We Go Next?" Appendix I.6 I personally relish a good tail-end and encourage it, but each DXpeditioner must decide for himself whether or not to allow the practice, realizing that if tail-end calls are accepted, callers who are not familiar with the proper procedure will try to use it, with poor results. The DXpeditioner must be prepared to handle the resulting situation, as it can lead to a loss of rhythm and subsequent pileup chaos. Since the DXpedition operator has full control of where he is listening, however, it is a simple matter to avoid the pitfalls of poor tailending attempts. Accepting tailends can be counterproductive, however.

ADDITIONAL TOPICS

Alternatives to a steady rhythm in finding a callsign.

QSO MECHANICS

The concept of QSO Mechanics describes to the process between the revelation of the initial full or partial call and the confirmation of the exchanged date during the QSO. It starts with the DXpedition operator signifying whom he is addressing, and ends with the last “QSL.” QSO mechanics includes sorting through the pileup for partial or complete call signs, persisting with the selected station. Verifying the DXer’s call sign and the confirmation of the DXer’s call sign. QSO mechanics may also be considered to include how the DX station approaches the next contact: Identifying and issuing instructions to callers for the next QSO.

CORRECT CALL SIGNS

The objective of those calling a DXpedition is to get their call signs correctly in the log in order to receive a confirmation. The DXpedition operator must make every effort to see that he has the correct call sign in the log and that the station worked knows that his call sign is correct in the log. Ending a QSO with a station’s call sign correctly in the log is the purpose of a contact. Doing so marks the difference between DXpeditions and contests. In a contest, accuracy is important, but accuracy is a trade-off against time. Some top contesters are willing to trade accuracy for speed. The extent to which they can do that successfully can increase their score. In DXpeditioning accuracy is important but time is of somewhat less importance, so a much greater effort toward accuracy should be made. In fact, time should be spent if necessary in order to assure accuracy and recognition.
Accomplishing the desired accuracy – minimizing the bust rate – when DXpeditioning requires that the DX operator follow the proper format for a good contact. When listening on CW, if the DXpedition operator hears a complete and correct call sign, he will send that call and a signal report: W5XYZ 5NN. W5XYZ should respond with only a signal report: “QSL 5NN TU.” On SSB, the DXpedition operator will say W5XYZ Five Nine, and W5XYZ will respond “QSL Five Nine Thanks.”
If the DXpedition operator hears only a partial, the routine is the same except that the DXer should not send a signal report until the DXpedition operator has his call sign correctly. On CW, the DXpedition operator says “W5[?]YZ 5NN”. W5XYZ responds “W5XYZ”. The DXpedition op then says “W5XYZ 5NN”, and then W5XYZ says “QSL 5NN TU”.

So, if the call sign is correct, the DXer should not send his call again. To some extent this procedure is a product of computer logging. The assumption is that the DX op has entered a call into his logging program and caused the program to send the call. If it’s correct, and he the DX op subsequently hears nothing that suggests that it is NOT correct, he will leave it alone. If the DX operator hears a call sign sent again, he has reason to believe he may have entered it in error. Many times I have heard a QSO lost – particularly on 160M – because the DXer sent his call again, and the DX operator, perhaps suffering QSB, had second thoughts about whether he had the call correct. He got it wrong the next time, and by that time, QSB had made the DXer’s signal inaudible. The QSO was lost!

In another case, the operator picks at worst a "partial" call sign from the pile. If the DX op has only a partial call, the DXer should reply by sending his full call again. When the station repeats his call sign and the DX operator has copied it correctly he must send the corrected call sign back to the station. It is totally inadequate to simply say "QSL", even if the call sign has been copied correctly, since the station worked can't know that his call has been correctly logged. In extreme cases such as a very rare DX

station, where accuracy is most important, The DXpedition operator might send a second confirmation.. That is, the DXpedition operator can ask the caller if he has heard his call repeated correctly. Failure to follow these procedures will almost certainly result in an elevated duplicate rate. Those expeditioners who complain of unnecessary dupes should take a close look at their operating procedure. It takes two to make a good QSO. Often the DX operator is practicing poor QSO mechanics.

In recent years the popularity of the on-line log, either updated while the DXpedition is in progress or kept in real time has blossomed. It is possible for DXers and DXpeditioners to become sloppy in their operating opting to rely on an on-line log to determine whether they made a "good contact." One has to wonder whether a QSO listed in an on-line log is really a valid two-way QSO, if either party has to determine the validity through this method. In the extreme, it is possible for a DXer to simply send his call automatically until it shows up in the on-line log, and then stop transmitting. This is called "Beacon DXing," and it was originally meant as a joke. Today, its mention is hardly a joke.

PARTIALS AND PERSISTENCE WITH PARTIALS

Although not desirable, responding to partial call signs in a large pileup is often necessary. Exactly how this is done is important. Responding to a call sign that is too partial is an invitation to many operators to call again. The reason for responding to a partial in the first place is to cut the size of the pileup that responds. If you hear a W5 and you say "Who is the W5?" Every W5 in theUSA, and many other 5s in the rest of the world, will call. In fact, any "?" sent seems to be an invitation for almost everyone to call again. The goal of making the pile smaller might have been defeated. On the other hand, this is sometimes a workable situation because although all W5s might call, many others won't. In general, it is much better to hear more than just "W5". Several letters of the suffix are far superior, and a strong case can be made for waiting at least for these additional letters.

Part of the reason for the noted response to "?" is that many DXers don't copy code well enough to understand what you are asking. At speeds beyond their capability they can copy their call signs and maybe the question mark. If they hear their call sign, that's great. If they hear "?" they are definitely ready to call again. It is important for you the DXpedition operator to copy as much of a call sign as possible – at least three characters. Anything less should be avoided. More than three is better.

Another reason for the response to "?" is just hope or worse. Calling while the DX is asking for a specific complete call will seem out of place for most DXers. If there is any question ("?") however, some will be able to justify it. This might make more sense to the DXer who has heard the DX operator actually respond to something other than that he asked for. Therefore, it is extremely important for a DXpedition operator to establish and follow strict rules about who to work and when. If he asks for a W5, he should never answer anything else before terminating that effort and moving on.

This leads to another aspect of successful QSO mechanics, which is persistence. When the DXpeditioner responds to a partial call sign it is imperative that he persist with that station until he has the complete call. If he does not persist he in effect invites all othercallers to call out of turn during his QSOs. DXers have been very clear about how they feel on this issue: If the DX operator does not persist with a call sign then calling out of turn is justified – even if it is their calling out of turn that prevents the DX from being able to copy the desired call sign! The operator must be extremely firm on this issue.

DX STATION IDENTIFICATION

In it always important that the callers know the call sign of the DX station. Many DXpeditioners sign their calls after each QSO, including instructions as part of signing. I will maintain that it is important for the callers to know whom they are calling. If for some reason they are universally aware, it is probably not necessary to sign after each Q. Instructions, on the other hand should be repeated after each QSO, so including your call isn't a major issue. Therefore, the question is how often the DXpedition operator should send his own call sign.

There are a number of options. If the operator dislikes responding to queries, he can send his call frequently. If the call sign is short, it will take little time to do this and it can even be a personal signature. A DXpedition is not a contest, however, and no one really needs the call sign immediately. If the expedition is a major one, it is likely that even the neophyte DXer will know whom he is calling (especially if designated frequencies are adhered to) and relatively infrequent IDs will suffice. Station identification is usually available on the various spotting networks, although DXers should be aware of the fact that these "spots" are not always accurate. If another expedition is in progress it becomes very important to identify frequently since there can be confusion over just which station has been worked.

The call sign of the DXpedition station should be sent often enough so that virtually all of the stations calling know whom they are calling. If callers start asking you who you are, you have not been identifying frequently enough. Depending on the QSO rate, identifying at least once every 3rd or 4th QSO or once every minute could be sufficient. Whether or not a call sign is given, each QSO should be ended with instructions: "UP," UP5," "NA," "EU UP5," "NA FIVES," etc.

FRUSTRATION MANAGEMENT

POSITIVE EXPECTATIONS

An important issue related to successful pileup management is frustration. Those who feel that, for any reason they will not be successful in making the QSOs they wish can be a potential source of problems for a DXpedition. A few who feel that the DX is not giving them a fair deal may create deliberate QRM (DQRM) on the DX frequency consisting of derogatory comments, carriers and various other obnoxious and/or disruptive forms of interference

It is therefore important to attempt to create conditions that will lead to a high degree of positive feelings on the part of those participating in the pileup. Several methods are available to accomplish this end.

STAYING POWER

One method of supporting high expectations is simply staying power. That is, the DX operator remaining on a band for hours at a time, showing callers that when conditions are right or (at least) when the pileup diminishes they will have their chance for a QSO. Staying on the same band has the added advantage of minimizing band-dupes and maximizing the number of different stations worked. Moving from band to band or even disappearing for long, undefined periods is a formula for disaster by giving the Big Guns multi-band QSOs while the smaller stations may make none. Nothing is more frustrating than just getting started with a pileup only to have the operator “QRX 10 Minutes.” The QRX is usually much longer, if the station resumes to the same session at all.

RATE

In a similar vein a tool useful in minimizing the overall frustration potential is simply keeping the QSO rate high. There is no question that a DXer senses a good chance to work a DX station who is working other stations at a rapid rate. Not only is it true that more stations can be worked in the allotted time but one receives a feeling that the operator is competent and will work everyone before the expedition is over. All of the aspects of operating that contribute to a high rate are important. Speed isn’t the only element. In fact excessive CW speed is usually a detriment. If the operator’s speed is excessive, errors and dupe rates will increase.

In any event, many DXpeditioners report that the amount of jamming decreases as the rate increases. Distractions, such as conversations with friends should also be minimized.

CALL AREAS

Another method for managing large pileups that also reduces frustration is working by call areas. This method might only be used when the pileup is very large but in any case it has the advantage of regionalizing the competition making the playing field more level for those calling. In this way even those DXers with small antennas and low power will have a chance earlier on. Several considerations are important, however, when working by call areas.

When working by call areas it is most important that consideration be given to the existing propagation. It is generally pointless to attempt to work areas where propagation is poor unless that is the only propagation that you expect. It is important to recognize such cases and to pay special attention to propagation openings to difficult areas. Once finding these difficult openings, it is important to work a large number of callers while the opening exists. A DXpedition operator recently discovered a rare opening to the West Coast after days of poop propagation. Before the opening was over, this operator had worked not just a few, but hundreds of thankful DXers.

It is also extremely important to work all of the areas within the subdivisions you have defined, assuming propagation exists. If the band is open from Africa to the whole of the USA, and areas one through five are worked, then the DX station goes QRT for the evening, those callers in areas six through zero will not be impressed. There are variations, however. In some situations where plenty of time is available the DXpedition may decide to work only fours during a particular opening, there being ample opportunities for working the fives and sixes on other occasions. Care must be exercised to make certain that all areas are treated fairly in the end, however.

On twenty meter SSB from Albania, ZA1A, the pileups were enormous. Most of the time we worked by call areas. So it became desirable to break the call areas down to even smaller subdivisions. One evening in fact about one hundred W4s were worked followed by one hundred K4s, followed by one hundred N4s, etc. When we reached the western US on several occasions the propagation was relatively poor and we skipped them entirely. At the time this was not very popular among the fives, sixes and sevens, but there was plenty of time and when we did work the West the rate was considerably higher and the resultant QSO quality and quality was much higher.

PORTABLES

A nagging problem that comes with working by call areas is stations signing portable. That is, when the expedition is working threes, some stations in other call areas are prone to call "portable three." This problem seems to be overrated, and drastic solutions are not necessary. This situation is discussed in the "PROBLEMS" chapter.

INFORMATION

Important information concerning the details of the operation, such as which stations are active, what frequencies they occupy, when each will be on the air and when they will QRT should be provided from time to time. This information will allow the DXers to plan their own personal strategies for getting into the DX log. While such information is useful for the DXer he should not expect to be informed to the point that he can arise from the couch in front of the television to work the DX at the appointed time and return in only a few minutes missing only the Bud Lite commercial - and he shouldn't ask for such information either. While Pilot stations have provided some of this information in the past, modern Internet communications is now bringing these details to DXers directly.

ADDITIONAL TOPICS

Excessive stress as a possible cause for deviant pileup behavior.

PILEUP PROBLEMS

When considering what might be going wrong in the pileup of a rare DX station there are many considerations. Actually, there are several types of problems and it might be good to define some of them at this point.

What we first hear is many stations on the same or close frequencies seemingly calling randomly. If we listen to the DX station and the pileup simultaneously it quickly becomes apparent that there is often a lack of coordination between these two. Why do you suppose this happens? Certainly, it is not possible to be heard if you are calling while the DX stations is transmitting. Perhaps, however, it is because the callers are unable to find out what is happening at a particular time.

Part of this problem is caused by callers not hearing the DX station well. We probably have a strong tendency to call when in doubt. We do this because there might just be a possibility of working that station even when he isn't being heard well. Not hearing well can be caused by QRM, DQRM, poor conditions, or a lack of CW expertise on the part of the caller (or maybe even the DXpedition operator). The DXpedition operator can do some things to alleviate this situation.

SLOW YOUR CW

Often DXpedition operators think of a DXpedition as a contest. While it is usually a goal to log as many different callsigns as possible using high speed CW isn't always the best way to accomplish this end. In a contest the operator owes his QSO partners nothing. He is pretty much given – or takes – free reign to operate as he pleases. During a DXpedition however the operator is expected to get DXers in the log correctly. There is no score, except perhaps a large number of unique callsigns and a low number of dupes.

Many of the problems with pileups are due to poor operating by the DXpedition operator. In order to behave well in a pileup a DXer must have a reasonable chance of understanding what is happening. If in addition to QRM, poor propagation and other factors, it is difficult for the DXer to hear instructions from the DX operator he will likely guess and he will probably guess wrong. What is he asking for: where should I call? did he get my call correctly? Any number of bits of information that are missed will lead to difficulty for the DXer – not all of it his fault.

While we would love to know that everyone in a pileup is capable of understanding what the DX op is saying reality sets in and we must realize that at best it is difficult. Many operators can at best only copy their callsigns at speed. It would be useful for these amateurs to work at increasing their copying ability but the desired end will never happen. We certainly do wish to have these individuals participate in DXing since they may make up a big proportion of all DXers. We certainly do not wish to ask them to stay on 'phone. So, understanding the realities of DXpeditioning vs operator CW speed is an important factor.

A PERSPECTIVE ON DXPEDITION INTERFERENCE

Interference generally is a matter of more than one station occupying a frequency at the same time. In DXpeditions, this is unavoidable. Interference on the DXpeditions transmit frequency makes it difficult

or impossible for DXers to copy the station and make QSOs. Interference in the pileup makes it difficult for the DX operator to work stations as well.

Interference on the DXpedition frequency is by far the worst of the two. One of the biggest problem of this type is that of DXers calling on the DXpedition frequency. This interferes with everyone in the pileup who wants to make a QSO. It requires only a few of these operators to transmit "UP UP UP" etc. in order to cause the QRM to escalate to a mess. The DX can minimize this interference by making sure everyone understands that he is working split, i.e. not listening on his frequency, and where he is listening. This can be done by indicating frequently – every QSO – where you are listening. On CW, it is important to indicate where you are listening with a CW speed understandable to most DXers. You may have to slow your CW speed to communicate this effectively.

Internet spotting networks also help to communicate where you are listening. Internet access by DXpeditioners makes it possible for the operators to indicate where they are listening via Internet.

Some experts claim that all that is necessary to stop this is for the DX op to say "up" after each QSO." Study doesn't support this idea. Listening carefully to the DX station's frequency usually indicates that the problem is DXers who do so inadvertently. Most of the problems are caused by radios that don't provide for listening to both the pileup and the DX station without relatively complicated switching that can lead to transmitting on the wrong frequency. The radio with the A/B switch, is probably the worst. In order to listen to the pileup, one must also put the transmitter on the DX frequency. If the switch isn't activated properly before transmitting, one is transmitting on the DX frequency.

Better radios for pileup operating include two receivers capable of listening to the DX frequency and the pileup / calling frequency simultaneously. Another useful feature would be a transmit lock-out that would prevent transmission on a selected frequency.

Interference in the pileup is a problem for the DX op. It isn't nearly as serious as the interference on the DX frequency, however. It is more of a "cosmetic" problem, causing angst among pileup watchers. Even those who call every time the DX op stops transmitting aren't a serious problem for the DX op, since he is either not listing on that frequency, or he can move his listening frequency at will. Ingenuity will prevail here.

JAMMERS & DQRM

Jammers on the expedition frequency can be a serious problem for any DXpedition. The wise operator should listen occasionally for jamming on his transmitting frequency; in fact, it may become obvious that there is a problem when the pileup stops calling. An obvious solution to the jamming problem is simply to be louder than the jammer. If callers can hear the DX station the jamming will be ineffective. In fact, propagation will generally be such that QSOs to some areas of the world can be made no matter how serious the jamming. If ignored the jammer will himself become frustrated and will soon disappear.

Beyond simply overpowering the jammers however operating procedures can be implemented which will minimize the causes of jamming. Perhaps this is the most effective technique. Many jammers are reacting to their own frustrations so maximizing positive feelings, optimizing QSO mechanics and minimizing disruption to unrelated activities elsewhere in the band will go far in deter jammers.

Jamming that results from non-DXers displaced by the pileup can be minimized by restricting the space occupied by the pile and by avoiding specific frequencies. The DXpedition operator has complete

control over these parameters.

Jamming which arises from irrational sources can be dealt with by following the rule that dictates, "You have to be LOUD!" This is a manifestation of the 1/R rule: the relationship between the ability to work a DX station and the distance. Being close is being loud. Being loud is the most effective solution to eliminating jamming. If the jammer cannot compete with the DXpedition station's signal there will be no harmful effect. Being loud should not eliminate the need for a good operating strategy, however.

No matter what the causes of jamming are, under no circumstances should the DXpeditioner confront the jammers nor should he change his operating frequency significantly. That said, if alternate frequencies have been designated changing one of them may alleviate the problem. Alternately, small shifts in the operating frequency –100-200 Hz – can also alleviate the problem. Regardless, it will generally be possible to continue operation to some areas of the world until the jammer tires in his lack of success.

DUPES

When many DXers persist in making duplicate QSOs it becomes more difficult for others to make their QSO with a rare DX station. Operators who persist in making these redundant QSOs have been criticized regularly: some DXpeditioners threaten to withhold their QSLs and others advocate publishing their callsigns. There is no question that the practice exists. But why? There are reasons why some DXers make duplicate QSOs: some DXers like to flex their muscles; others simply aren't sure that their QSOs are good.

However, let's put the problem in perspective. It has been found that relatively few DXers persist in making large numbers of duplicate QSOs. A statistical analysis of one large DXpedition log showed that the vast majority (over 94%) of DXers who made duplicate QSOs made only one such QSO.6 Another analysis indicated that out of 50,007 QSOs (about 24,000 different callsigns), 420 stations made 2 or more duplicates (less than 2%), while only 42 stations made 3 or more duplicate QSOs.7 In each study, the percentages of stations making excessive QSOs were about the same. Obviously, only a very small number of DXers made what might be called excessive duplicates.

What is an excessive number of dupes? If the caller fears that he has not completed a good QSO he should be entitled to another. It is the responsibility of both operators to complete a contact satisfactorily. If the DXpeditioner practices faulty QSO mechanics, resulting in poor quality contacts, then a large number of second or third QSOs might be expected. Since there is reason to believe that the DXpedition operator is at least partly responsible for duplicate QSOs it is unwise to announce any type of sanction that will be invoked if duplicate QSOs are attempted.

In cases where excessive duplicates are encountered, the operators involved should not be chastised on the air. It is important to note that any DXer deserves to make an additional QSO to replace one that he feels is questionable. The DXpedition operator owes each DXer a "good contact." The DXpedition operator should not respond negatively to request for duplicate contacts. Such behavior will reflect poorly upon the DXpeditioner especially if it is recognized by those calling that his procedure is faulty. Since the problem is not large it is best to handle it after the operation, if at all.

PORTABLES

An objective when working by call areas it is not only to subdivide the pileup because it is too large,

but also to work certain areas that might be considered more difficult. Some of these areas may be in the target area, or they may simply be for some reason under-represented in the log. It is also likely that using call areas in some situations will facilitate making the best use of propagation. Unfortunately, there are always a few DXers who can't wait for their call areas or attempt to gain an advantage by calling with other call areas. Perhaps they call outside of their call areas because they can't copy the DX operator's instructions.

Additionally, a large percentage of DXers feel that if they are truly portable (operating in an area not indicated by their callsign) it is permissible to call with both areas. This is disappointing. In response to this practice some individuals have recommended that DXpeditions refuse to respond to callsigns with portables. Unfortunately this policy has the effect of unduly penalizing those innocent DXers who are actually located in call areas other than those indicated by their callsigns. If a W1 is located portable in W6 he may be terribly handicapped, in certain situations, if he is not allowed to call with the sixes, and the DXpedition may lose some control over how the expedition is conducted. Therefore, it is desirable to ask the calling stations, which must sign portable to indicate their true location and to call with others only in their current geographic call area.

Although the problem is probably overstated there are indeed a number of DXers who sign with incorrect portables. On the other hand many DXers in call areas other than those indicated by their callsigns normally don't use the portable designator and it is only when a DXpedition is working call areas that we hear these portables seemingly violating the rules, when in truth they are not. Since propagation characteristics often reveal their attempted deception stations indicating portables other than their correct areas are often very obvious to the DXpeditioner and can be avoided. The wise DXpeditioner will not refuse to log stations signing portable. Abuse of this rule is possible, of course, but is generally insignificant.

QUESTIONS

There was a time when DXpeditioners were burdened by endless questions from callers. It seemed that everyone wanted to be personally informed of the operating band plans, the QSLing information, the QTH, and all manner of additional information during the operating.

Obviously any such explanations detracted from the operating efficiency and resulted in fewer QSOs. What was more perplexing was that it seems that few ever listen to what the DXpeditioner has said in answering one of these questions. It seems incredible but often one question would be followed immediately by the same question by the next caller. In any event once a question is answered, another will surely follow.

The solution to the problem seems to have been the proliferation of information now delivered via the Internet. Where DXpeditioners in the past might have simply ignored most questions, this information is now available at the click of a mouse, if not in the various DX bulletins. The operator should give timely information from time to time but should avoid responding to individual queries. This will require callers to listen occasionally to what the operator is saying.

One question that does still arise is "what is your callsign?" The solution to this question is simply to identify adequately. There is really no reason not to do this and the benefits far outweigh the bother. It is simply a matter of remembering to do it. There is also important information that should accompany the end of every QSO: where to call and who should call. " Europe UP5" or whatever directions you wish to give the pileup must be sent after every QSO. If this information is not sent, sharp DXers will

take that as a clue that whereas they couldn't call before, now they can.

ADDITIONAL TOPICS

1. The Use of Code Readers

(Callers don't know exactly what is going on.)

2. Poor Knowledge of the Code (CW)
3. The Use of Packet Spotting – The Packet Pileup

   (Everyone is on the same frequency.)

FOLLOW UP

FEEDBACK

Following an expedition many DXpeditioners are very interested in learning how it was received by the DXing public. In some cases the operators are greeted at home as heroes and indeed they believe they sometimes are heroes

Eventually however every DXpeditioner learns that there is always someone is unhappy with his operation. Obviously it is very difficult to please everyone. It has been said that if you worked it, it was a great operation, if you didn't, you might be ready to disagree. When some people are unhappy it doesn't necessarily mean that the expedition was a failure. It is possible however that there might be some room for improvement in performance.

An expedition with two stations operating twenty four hours per day, averaging three QSOs per minute will take about three or four days to work everyone even once. Since it is impossible for everyone to work the expedition immediately, it is reasonable to ask if the playing field is level. Does everyone have an equal chance when taking their operating skills and station characteristics into account? An experienced DXer is likely to be more able to determine the best way to work the expedition and get quickly into the log. This of course leaves the less experienced DXers for later in the operation. So it is very likely that in some cases when it is not possible to operate over weeks, with many operators, some or even many DXers won't be able to make a QSO.

Some of the criticism heard following a relatively successful DXpedition will be from those operators who lack these skills. Often however valid criticisms are heard and an objective self-evaluation is in order. Criticism should be evaluated in view of conditions on each side of the discussion and alternatives studied.

QSL POLICY

Over many years, even decades, much has been said and written about QSL policies of various groups and individuals. Generally speaking, one should be free to do whatever one wishes concerning QSLing. If however financial support is sought from clubs, foundations or the general DXing public, it is incumbent upon the DXpedition group to comply with certain accepted standards. Traditional QSLing methods include the IARU bureau system, direct QSLing via post and direct QSLing via QSL managers. These systems served well over the years.

Of note, the direct QSLing method, whether to the DX station or its QSL manager offered the DXer an opportunity to include a donation along with the QSL request. Although a donation wasn't usually required, but return postage was usually necessary. Since sending coin isn't practical, DXers usually included currency in excess of that required to send the card by return mail. As a result, there was usually excess funds generated, often enough to help fund the DXpedition. Often bulk mailing routes were used to reduce the postage cost.

With the coming of electronic QSLing - Logbook of the Word (LOTW) and eQSL - not to mention the greatly increased cost of shipping cards via the bureau, alternate methods of replacing the excess funds

have been found. One method of reducing the postage cost has been to simply request a QSL via email and pay for the return postage using a service such as Pay Pal. This method is generally called OQRS (Online QSL Request Service). This method also provides an opportunity for the DXer to add a contribution to his payment of postage.

The increased use of Logbook of the World (LOTW) has caused considerable angst, however. A number of expeditions in recent years have opted to require a contribution in exchange for an instant LOTW QSL. The difference is that LOTW QSLing is not only rapid, and more desirable than QSLing via post, but it removes the opportunity for a DXer to voluntarily include a contribution. By 2012, this became a major conversation in the DXing world.

By early 2013, more and more DXpeditions were opting to upload their logs to LoTW, perhaps to avoid the ill feelings among DXers. It is possible that in the not-to-distant future the issue will be settled in favor of DXers finding alternate methods of contributing to DXpeditions.

NOT IN THE LOG

One facet of QSLing policy which relates to the operating aspects of a DXpedition is that of how to resolve problems when calls are found "not in the log.” It is possible to analyze one's operating procedure from the point of view of errors made by the operator as confirmed by QSL cards received. Many errors follow a pattern and discovering their nature can improve an operators skills.

In the past most mistakes in the logs were handwriting problems leading to erroneous data entry. More recently virtually all logs are made and kept in electronic format. Still errors will occur. It is interesting to note that old paper logs often contain more information than computer-based logs. This is because on paper it was possible to add notes or see erasures, etc. Notes can be made in electronic format but it’s seldom done.

Nevertheless a consistent set of rules can be followed which will allow DXers a sort of "due process" as DXpeditioners try to resolve their QSL problems, while affording the operators an insight into their own operating procedures. If only a computer log is available when trying to resolve a "not in the log" situation the manager or the operator must seek out a chronological listing and look for the call that was placed in the log representing that of the DXer requesting the card. Whether a computerized chronological listing or an original handwritten log is used it may be found that a similar enough callsign is found in the chronological listing to justify further investigation.

It is important to formulate a policy regarding “similar” callsigns: how close must the callsign be? Many QSL managers will allow changes, some will not. It is most important to be sure that the entry in the log actually represents a QSO with the station claiming the QSL. If a reasonable facsimile of the requester’s callsign is found perhaps one simple test can be applied: Will anyone else request a card for this QSO? Maybe the requester will be asked to contact the holder of the actual callsign in the log and see if he did indeed make the QSO in question.

On CW one can examine the error and see if it is a reasonable error to be made in copying the code. For example, if a character is found which varies from the apparently correct character by one dot, we may apply the "one dot rule." For example “A” was logged instead of “R”, or “U” instead of ‘V’. Whether or not this is sufficient to issue a QSL card or not, it is an indication that the operator is adding or deleting dots mentally and an indication that he might be better off using a slightly lower CW speed. In this case the claimant probably deserves a card. Generally, a DXer should not be deprived of a QSL

card as a result of an obvious error by a DXpedition operator. The deciding factor should be whether the contact with the claimant or not.

Frequently no callsign can be found in the log at any time near the QSO in question. In these cases the QSL manager must simply advise the requester that no QSO was made. Often, QSLs are claimed on the smallest evidence of a QSO, as when a couple of letters of the worked station were the same. In some rare cases, a QSO is claimed fraudulently. Some DXers record QSOs based solely on hearing just part of their own call, hoping that a QSO took place. “The timing was right,” they say. Care should be taken in these cases because relatively few errors are made by DXpedition operators themselves. This procedure not only maintains the integrity of the QSLing policy for the DXpedition but as importantly it serves to assist the operators in improving their operating procedure by revealing the nature of their errors.

There is another aspect of "not in the log" QSOs and that is the definition of what exactly constitutes a valid QSO. This problem arises mostly on the low bands, eighty and one-sixty meters, where ESP (extra sensory perception) is sometimes found in its enthusiasts. Many of us have heard some of the low band faithful ‘working’ the DX long after he has QSYed to forty meters.

From the DX end it is usually quite easy to determine whether a valid contact has been made. Frequently the DX station is running low power and can hear the Callers more easily than they can hear him. If a station cannot determine when the other station has stopped sending then a valid QSO cannot be claimed. If a third station has to say "over" to help the Caller then the QSO is definitely suspect. Some DXers fail to realize that a valid contact must be a two-way exchange of information – at least the callsigns. Knowing that a DX station is on a given frequency from a cluster spot does not constitute hearing a DX station. On occasion a QSL manager will see an entry in the original handwritten log which has been crossed out or erased. This may have happened because the expedition operator could hear the calling station but sensed that the calling operator could not hear him and subsequently voided the QSO.

ETHICS

Perhaps the last chapter is not the appropriate place for a discussion concerning ethics: maybe it should be at the beginning. In any event, make no mistake, this issue encompasses all other issues in DXpeditioning. Ethics is defined as a set of moral principles.It's not what is legal or illegal but what is right or wrong. The DXing community is keenly aware of this and defines its own ethical transgressions. Eventually support for DXpedition groups and individuals whether direct or through the DX foundations may be affected when things go astray

Situations arising from licensing, QSLing and even questions concerning an actual presence at the claimed location all affect the integrity of the DXCC program itself. It is not our intent here to describe in detail what is right and what is wrong in DXing. The DX community through its representatives on the ARRL DXAC as well as magazines and bulletins will over time decide these issues. It is our intent however to emphasize that these issues will be decided by the DXing community. It is in the best interest of any DXpeditioner to consider not only his actions but the perceptions of his actions by DXers. After all, image is everything.

Ethical considerations do cover things such as that which is prohibited by law and/or published rules, issues of DXCC Rules and use of the Internet – chat rooms, packet spots and schedules. Also included are matter related to QSLing – "pay to play," OQRS, LoTW and e-QSL

FUNDING

One of the issues challenging 21st Century DXers and DXpeditioners is the funding of DXpeditions. An area which significantly affects DXpeditioners, funding of DXpeditions and their relationship with DXers is that of QSLing. Historically, QSLing has been conducted via the world postal system. QSLs can be delivered through the assistance of various groups operating the IARU QSL Bureaus, consolidating services that have served to lower the mailing costs at the expense of much longer turn-around times. QSLs have also been exchanged via direct mail, where QSLs are sent directly to DX stations along with self-addressed return envelopes. In the latter case, the DXer sends the QSL itself along with sufficient funds for reply also via direct mail. In addition to providing return postage, sending an envelope directly to the operator or QSL manager offers the opportunity for the DXer to perhaps include a donation to help cover expenses or other costs of an expedition. For many decades, there was no satisfactory form of "electronic" delivery of QSLs available. In the past, any electronic delivery system would have involved facsimile, a mode that is virtually impossible to make secure and not subject to alteration.

FUNDING AND ELECTRONIC QSLING

In 1998 the ARRL staff was tasked to study, develop and implement a system for creating electronic QSLs for ARRL awards. In early 2003 the ARRL introduced an electronic QSLing system that was not only secure but, because of the proliferation of the Internet, quickly became available to virtually any DXer who wished to use it. Logbook of the World (LoTW) or Logbook as it is known is a free, central clearing-house type of system that accepts log records from radio amateurs and attempts to match these

records with QSO records submitted by others. When a match occurs a QSL is produced which in turn can be used for ARRL awards, particularly DXCC. LoTW records can now be used for the CQ WPX award.

Discussions have taken place concerning the use of LoTW for various other non-ARRL awards but the reality is that none of these awards has to date been supported. For DXCC however the LoTW system is a resounding success. It is becoming the standard for DX QSLing with matches over 40% of logged QSOs after some operating events. Although some still feel that few use it, with around 50,000 different users (in early 2012) LoTW is serving a significant percentage of active DXers. It is quite possible that LoTW generates more QSO records than the entire world-wide QSL Bureau system.

There is some concern about the length of time DXers who use LoTW have to wait for LoTW uploads. This issue revolves around funding and in particular funding for large DXpeditions. The primary method of individual funding for DXpeditions remains the direct QSL envelope option. At this time, no parallel funding mechanism exists for the LoTW system. ARRL has agreed in principle to use of some sort of credit-card based contribution mechanism but to date this has not been implemented. Without such a contribution channel, DXpeditions have been reluctant to upload their logs to the Logbook system early in the QSLing cycle. In doing this, their intent is apparently to persuade more DXers to request a direct card, thereby encouraging more contributions.

Originally, ARRL's Colvin Award set a criteria for uploads to be not more than one year after the end of a DX operation. Somewhat later, some other organizations set a similar period. The one year limit was somewhat arbitrary: no one really knew how LoTW might evolve. By 2010, it was clear that it had become very popular. Now, waiting one year for an upload seems quite unreasonable, while most of the direct QSLing seems to be concluded after only 3-4 months.

In the past no one questioned that the bureau system might average over 2-3 years to deliver QSLs. So if you weren't particularly interested in a rapid QSL reply you could use the bureau. If you were interested in a quick QSL, perhaps because you had just worked an all-time new country, you sent a direct request, usually taking advantage of the opportunity to also send a donation. Now, with postage costs very much higher than before, even for bureau deliveries, LoTW is more economical than either direct or bureau. As noted, with LoTW, as with the bureau system, there is no opportunity to send a contribution, since there is no envelope into which to put it.

No doubt, time will adjust these matters. Perhaps ARRL will provide a web-based credit card contribution system. In the meantime we can be hopeful that DXpeditioners will not incur or create excessive bad-will on the part of DXers, while at the same time DXers will "step up to the plate" and make the donations that are necessary to conduct these large expeditions.

OTHER USES OF THE INTERNET

The internet encompasses a new set of challenges for DXers. Using the Internet simultaneously with communications via radio facilitates certain possibly questionable activities. DX QSOs have traditionally been point to point, strictly via amateur radio frequencies. Through the use of Internet chat rooms, DXers can coordinate their QSOs – on Topband, for example, where communications is marginal at best. Observations indicate that QSO information is sometimes exchanged more via Internet than via radio. This isn't necessarily a problem for DXpeditioners, at least not yet(!)

The Internet also allows the use of remote transmitting and receiving equipment. This can be an issue for DXpeditioners. In fact anyone can utilize receivers, transmitters and indeed whole stations remotely when they are located other than where their license and callsign indicate.

The Internet and associated modern technology also facilitates the use of very effective spotting networks. The Skimmer, which finds stations automatically may change contest and DXing drastically. Is this a bad thing? Probably not – it's just different.

ClubLog has introduced DXers to a competitive system which is finding great popularity. Is that a bad thing? As DXers have fewer "new" ones to work such competitive schemes are probably a good thing.