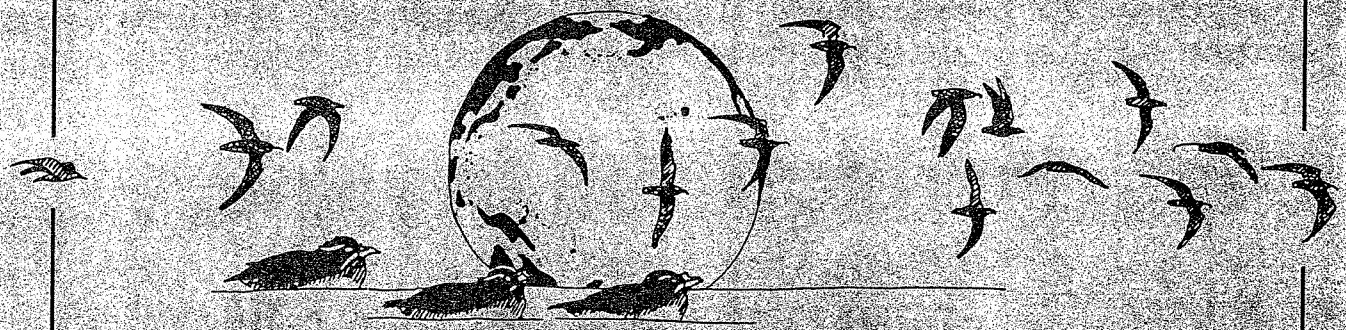
Pacific Seabirds



A Publication of the Pacific Seabird Group

Volume 21 Number 1 1994

Dedicated To The Study And Conservation Of Pacific Seabirds And Their Environment

The Pacific Seabird Group (PSG) was formed in 1972 out of a need for better communication among Pacific seabird researchers. The Group coordinates and stimulates the field activities of members involved in research and informs its members and the general public of conservation issues relating to Pacific seabirds and the marine environment. Group meetings are held annually and the PSG publication, *Pacific Seabirds*, is issued biannually. Current activities include involvement in seabird sanctuaries, coastal surveys, seabird/fisheries interactions, and legislation. Policy statements are issued on conservation issues of critical importance. Although PSG's primary area of interest is the west coast of North America and adjacent areas of the Pacific Ocean, it is hoped that seabird enthusiasts in other parts of the world will join and participate in PSG. PSG is a member of the U. S. Section of the International Council for Bird Preservation. Annual dues for membership are $20 (individual and family); $13 (student, undergraduate and graduate); and $450 (Life Membership, payable in five $90 installments). Dues are payable to the Treasurer, whose address in on the back cover.

Pacific Seabirds

The *Pacific Seabirds* (ISSN 0740-3371) is published twice a year, in the spring and fall, and contains news of interest to PSG members, including regional seabird research and conservation news and abstracts of papers presented at the annual meeting. *Pacific Seabirds* is not an outlet for the results of scientific research; however, articles and shorter items on seabird conservation, seabird research activities, and other topics related to the objectives of PSG are welcome. All materials should be submitted to the Editor or the Chair of the Publications Committee. Back issues of the *Bulletin* or *Pacific Seabirds* may be ordered from the Treasurer: please remit $2.50 each for issues of Vols. 1-8 (1974-1981) and $5.00 each for issues of Vol. 9 and later.

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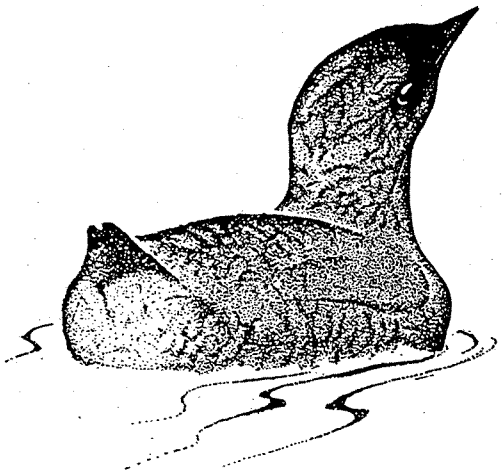

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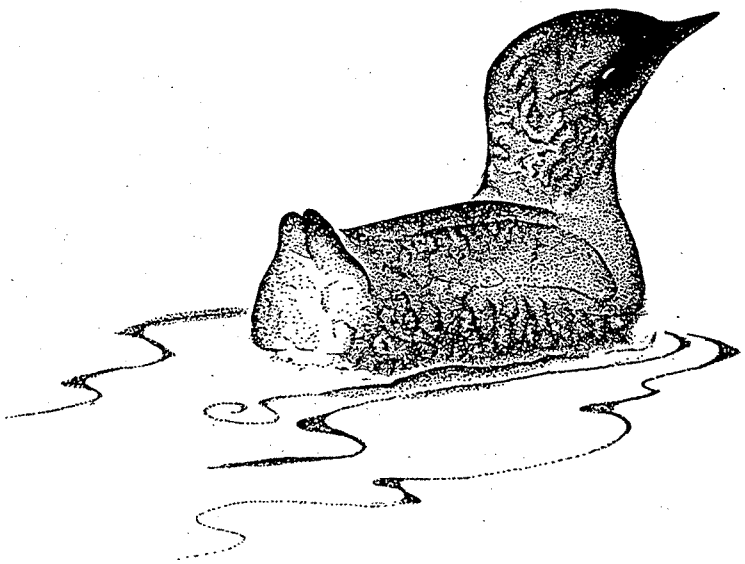

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Forum

Hard Knocks for the Pribilof Fox

Paula A. White, 2547 Crescent Ave., Santa Barbara, CA 93105

Several times in the past few years I have been approached as a member of PSG and asked what seabird research I am involved in. To each inquiry I have replied the same, "I study foxes on the Pribilof Islands." Because the Pribilofs are famous for their seabird colonies, it is often assumed that my research in some way directly relates to birds. Although this is not the case, current events on the Pribilof Islands are casting foxes in a role more important than ever to the seabirds. Fox diet on the Pribilofs includes seabirds. Viable populations of birds and foxes have persisted on the Pribilofs for centuries, including the past 200 years of human habitation on the islands. Now, development of the Pribilofs as a commercial fishing center presents a dire threat to seabird colonies in the form of rat introduction. Development threatens the foxes in different ways. However, the destinies of foxes and birds remain linked.

Arctic foxes are indigenous to the Pribilof Islands, having immigrated during sporadically occurring ice conditions over the last several centuries. The earliest Russians to visit the Pribilof Islands found large numbers of arctic foxes which they harvested along with the northern fur seals. Infrequent fox immigration over the ice probably still occurs, although changing climatic conditions have decreased the likelihood of such movements. The isolation period has been sufficient to alter morphology to the extent that Pribilof foxes are currently considered a distinct subspecies (*Alopex lagopus pribilofensis*). In 1981, when the taxonomic status of arctic foxes occupying Bering Sea islands was re-examined, the Pribilof foxes were the only populations found to represent a legitimate subspecies. By contrast, arctic foxes on St. Matthew, Hall, and St. Lawrence islands move freely across pack ice each year, and showed no significant differences from mainland populations.

While the status of arctic foxes as native to the Pribilofs is well documented (see "Alaska's Alien Animals" PSG *Bulletin* Vol. 20 No. 2), public opinion of Pribilof foxes is undeservedly low. Since the beginning of my research in 1988, appreciation for this population has remained unfavorable or has in fact deteriorated due to the increased attention given to the declining populations of many of Alaska's seabirds and newly revitalized efforts to eradicate non-native predators from important seabird nesting areas.

The largest single threat to the foxes is the tumultuous change accompanying the economic restructuring of the islands. The development of the St. Paul and St. George harbors as commercial fishing centers is an issue that will affect all wildlife species on the Pribilofs.

The accompanying potential for rat introduction is grave. Averting this disaster and the resulting permanent, detrimental effects on the seabirds is of the utmost concern for the USFWS, who already have rat prevention measures in place in the harbors. In addition, work continues on a "First Strike" emergency response strategy to deal with rat-infested shipwrecks. However, the USFWS and the Pribilovians are counting on the foxes to provide an additional line of defense should rats slip through the harbor safeguards. Outside of the harbors, foxes represent the only immediate response against rat introduction from shipwreck at this time. Although foxes are not capable of eradicating established rat populations, they do control rodent numbers and could possibly prevent rats from becoming established by killing initial escapees.

Accelerated development of the islands threatens the foxes in a number of ways. Due to the long isolation of the Pribilof foxes, disease exposure and therefore resistance is likely very minimal. Although it is possible that diseases could naturally reach the islands from infected foxes crossing the ice, the biggest disease threat to island foxes is contact with non-native species.

Although dogs are not allowed on the Pribilofs, they are not uncommon aboard fishing vessels in the Bering Sea and have been known to jump ashore from vessels at dock. The new breakwaters allow docking of more and larger vessels. Additional problems stem from the transient fishing fleet and human behavior on the docks. Foxes growing up on the breakwaters quickly grow used to human contact, and in some instances become dependent on human food. Even with new, tougher restrictions on dogs coming ashore, some foxes readily board docked vessels looking for handouts of food. House cats are kept as pets on both St. Paul and St. George Islands and are also present on ships. It was not until the 1990s that vaccinations were required for cats brought to the Pribilofs. Requiring proof of vaccination for pets aboard visiting vessels is unrealistic. While contact between foxes and domestic animals is worrisome, rats may represent a more serious disease threat than dogs or cats. The consequences of introduced disease could be catastrophic to the fox population.

There are other, more insidious threats as well. Indiscriminate shooting and unlimited trapping threaten populations that are genetically isolated. Ironically, much of the Pribilof fox mortality occurs at the hands of people unaware of the population's origins, who believe they are helping to restore the island ecosystem by killing foxes. While canid populations are usually capable of withstanding some harvesting, arctic foxes may respond to high levels of mortality in unanticipated ways. The arctic fox population throughout Fennoscandia (Finland, Norway, Sweden) was historically numerous and sustained commercial harvesting for several centuries. However, in the 1920s the population crashed due to overharvesting. Since then, despite sixty years of complete protection, fox numbers have remained so low that the population is currently threatened with extinction. Other factors, including changing climatic conditions and shifts in species composition (fewer wolves, more red foxes), may have contributed to the decline. However, despite experimental manipulations aimed at increasing the arctic fox population, numbers remain critically low.

Eradication of introduced arctic and red foxes from the Aleutians and other islands throughout Alaska should be strongly supported as one of the most effective and comprehensive approaches to seabird conservation available. However, it is essential that visitors to the Pribilofs (armchair travelers included) recognize Pribilof foxes not only as an indigenous species, but as an endemic subspecies as well—a unique feature of the Pribilof Islands.

Arctic foxes are efficient predators and opportunistic scavengers. Their diet on the Pribilof Islands includes seal carrion, seabirds and their eggs, fish, invertebrates, land birds, and the St. George Island lem-

ming. While seabird enthusiasts may flinch at the sight of an auklet or murre egg in a fox's jaws, it should be remembered that arctic foxes constitute a natural part of the Pribilof ecosystem. This small, genetically isolated fox population is vulnerable to overharvesting and disease. Regulatory agencies responsible for managing this population must address these legitimate threats to the Pribilof foxes and instigate necessary conservation measures. Education of Pribilof residents and island visitors is essential to helping foster an appreciation for the native foxes. In turn, foxes might help to protect these precious islands from rat infestation. Hopefully, through such concerted effort and commitment, we will ensure the survival of the Pribilof fox.

Pacific Seabirds Marks a Change in Style

John Piatt, Chair

Members of PSG will note many changes in the style of this edition of the "bulletin." First is a name change form *Pacific Seabird Group Bulletin* to *Pacific Seabirds*. This marks a change not only in title but also in the content of the publication and reflects the evolution of the Pacific Seabird Group itself. The *Bulletin* served for many years as a way for members to keep in touch with each other, describing their current work (Regional Reports), various PSG activities, and short news items of note. All these functions continue, but in recent years we have included more technical notes and papers that report on current research of interest to members. In this volume we are beginning to formalize this trend with new section titles and a format we hope to use consistently in the foreseeable future. *Pacific Seabirds* (PS) is not becoming a full-fledged journal, although we are adopting a journal style to some degree. All articles and other contributions to PS will be reviewed by one or more members of the PS Editorial Committee (Steve Speich, Martha Springer, George Divoky, John Piatt, Scott Hatch), and, if necessary, sent out to other PSG members for additional review. We want to improve the caliber of articles in PS, but we don't want to slow the procedure down too much by an extensive review process. Members are encouraged to send submissions to the technical editor at any time. *Pacific Seabirds* is NOT a venue for publishing data you could not publish anywhere else, items likely to have a narrow audience, or dated research results (e.g., "Diets of Seabirds at My Study Site, 1979-1983"). We WOULD like to receive short items relating to research and conservation. Submissions should be about timely issues (e.g., die-offs, breeding failures) that will alert members to recent events in the seabird world; short review articles that would be of wide interest to PSG members; recent conservation or research news; useful techniques for seabird research; comments and opinions on recent issues; humorous notes; publication reviews; and announcements. We would also appreciate new graphics, especially line drawings of seabirds. We look forward to seeing more submissions from PSG members. Please let any one of us on the Editorial Committee know how you feel about the changes or if you are interested in being more involved in helping produce *Pacific Seabirds*.

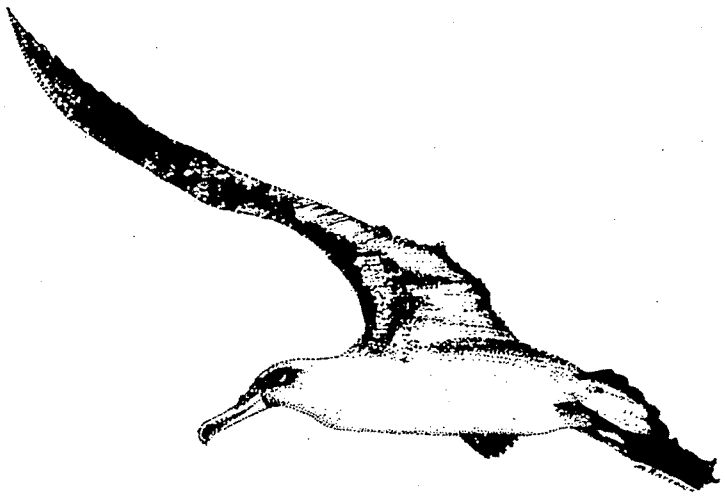
P.S. Look for an "Instructions to Authors" page in the fall issue of *Pacific Seabirds*.

PSG Apologizes for Ommission

PSG inadvertantly left out the following table from Lance Tickell's *Alabatross Atlas*, published in the Fall 1993 issue of the Bulletin. The editorial staff apologizes to Dr. Tickell for the ommision.

1 Prince Edward Island	11 Campbell Island
2 Crozet Islands	12 Antipodes Islands
3 Amsterdam & St Paul Islands	13 Bounty Islands
4 Kerguelen Islands	14 Chatham Islands
5 Heard & McDonald Islands	15 Diego de Almagro Island
6 Macquarie Island	16 Diego Ramirez & Ildefonso Islands
7 Tasmanian offshore islands	17 Falkland Islands
8 New Zealand & offshore islands	18 South Georgia
9 Sanres & Solander Islands	19 Tristan da Cunha
10 Auckland Islands	20 Gough Island

Table 1. Breeding locations of southern hemisphere albatrosses.



BANDING THICK-BILLED MURRE CHICKS

Tony Gaston, Canadian Wildlife Service, 100 Gamelin Blvd., Hull, Quebec, K1A 0H3 and Garry Donaldson Dept. of Biology, University of Ottawa, Ottawa Ontario, K1N 6N5

Over the past 15 years, the Canadian Wildlife Service has banded approximately 40 000 Thick-billed Murre chicks in the eastern Canadian Arctic. During the course of this work, we have gained a lot of experience on when and how to do it. Obviously, as most Thick-billed Murres breed on steep cliffs, the banding usually involves the use of ropes and other safety devices. We do not want to pose as experts in that area and we strongly recommend that anyone attempting to band Thick-billed Murres employ experienced climbers. No amount of advice will replace experience in that department. This article deals only with the non-safety aspects of the work. We hope that other murre banders can benefit from our experiences.

The first thing that must be recognised about banding Thick-billed Murres is that, if it involves climbing within the colony, some egg or chick mortality will occur. This is something that has to be very seriously considered in any banding project, especially if the intention is to band hundreds, or thousands of chicks. The possible benefit of the information obtained must be weighed against the cost. Our strategy has been to minimize losses and to shift them as far as possible towards late-laid eggs, as these tend to have a lower chance of surviving than those laid earlier. In the best-run operations under ideal conditions one can achieve losses of only a few percent of eggs and chicks. If the timing or the weather is wrong, losses can be much higher. We regard 5% as the upper limit of acceptability.

Problems arise in banding murre chicks from the following sources: (1) eggs and chicks may become chilled during the course of banding; (2) they may be knocked off ledges; and (3) chicks may panic and initiate premature "fledging". The latter phenomenon can be the most harmful to the banding effort, as it involves the largest chicks and hence those most likely otherwise to survive to leave the colony. The loss of chicks after they have been banded affects any subsequent analyses that involve rates of recovery.

Premature fledging behaviour generally only occurs once chicks are 15 days or older. Chicks at younger ages tend to scuttle into cracks, or press themselves against the cliff with their necks tucked in, once their parent has left. Only a minority of chicks, even at more than 15 days, exhibit premature fledging behaviour, but once it begins, other chicks tend to be stimulated to follow suit and a mass jump-off can occur. Several chicks fledging prematurely within a short time is a clear signal that the operation must be abandoned.

A premature fledger will not face the cliff, but instead wanders about the ledge with its neck extended, looking alertly from side to side. It begins to give the typical "pee-pee-pee" fledging call and may then launch itself from the cliff within a few minutes. Once a chick has formed this determination to depart, it is extremely difficult to prevent it from doing so unless its parent returns. Hence, avoiding triggering this syndrome is a very important strategy in containing losses during banding.

Another class of chicks we call "panickers". Like the premature fledgers, these chicks will not huddle down once their parents have left, but run away from the bander, sometimes giving a scream of alarm when handled. These chicks do not attempt to jump from the ledge, but frequently fall off accidentally when fleeing in panic. They seem to form a relatively fixed proportion of chicks and their example is not followed by others to the same extent as that of the premature fledgers. Nevertheless, it is useful to keep them quiet if possible. Gently holding the mandibles closed while banding can help.

To combat the various problems posed in banding Thick-billed Murre chicks we have the following suggestions:

Rule #1: Get the timing right

We consider that the ideal "banding window" is only open for about 7 days. It begins when the first-hatched chicks are about 14 days old, which means that the chicks in the peak 80% of laying are roughly 2-12 days old, becoming 9-19 days old by the end of the window. If banding begins earlier than this, there will be many unhatched eggs present and some will be knocked off in the panic departures that inevitably result from a climber appearing on the ledges. If banding continues any later, some chicks will have begun to fledge naturally and the initiation of natural fledging seems to trigger the onset of premature fledging on a large scale.

The type of triangular bands that we use, from Lambournes of U.K., will stay on any chick other than one that is newly hatched. However, the standard U.S. Fish and Wildlife Service bands will have to be compressed to an oval shape to stay on chicks less than about 6 days old. The British style of "seabird pliers" are good for this.

We recommend starting to band as early as possible and accepting some losses of eggs if it ensures avoidance of premature fledging. If you do not start early and if rain or strong winds hold up banding for several days then you may be forced to choose between overrunning the window, or reducing the number of chicks banded. In our view, it is better not to band at all than to accept heavy losses. Apart from the ethical considerations, the interpretation of recovery rates or apparent survival rates are much complicated by significant losses during banding.

If you have a good knowledge of breeding schedules at the colony involved, it may be possible to take advantages of differences in timing of breeding among different parts of the colony. At Coats Island, we have found that one area is consistently later than other parts of the colony and we always leave this part until last. In any case, it is wise to determine chick ages in several areas before committing to large scale banding. A small sample of birds, especially close to the edge of the colony, may give an unrealistic impression of overall timing, causing banding to be delayed beyond the optimum date.

Rule #2: Don't waste time

The longer you spend on the cliff, the longer birds are kept away, the longer it will take them to return after your departure, and the more likely it is that chicks will chill or fall off. Be well organized, so that you do not spend a lot of time fiddling with your gear once on the cliff. Don't hang about taking photographs or admiring the view. Multi-pocket "fishermen's vests" are very effective in keeping your bands and tools in order.

Chilling can be reduced by avoiding banding on cold days, and by timing the banding period so that the sun is on the cliffs. This is especially important in the High Arctic, where air temperatures rarely exceeded 10° C. Except when in the process of hatching, murre eggs seem fairly resistant to chilling for periods of up to an hour, although this will depend on air temperature. Never band when it is raining; chicks get chilled easily when wet. However, they frequently crowd together in huddles which keep them much warmer than they would be separately. Very young chicks, and especially those that have just hatched, are not mobile enough to join huddles and do not orient well. It is best to put them in a pocket, or inside your jacket and replace them just before leaving the ledge. If there are several very young chicks on the ledge then you probably should not be banding there yet.

Heat can also be a problem in certain circumstances. Older chicks become very active when it is warm (this is true even without disturbance). If you anticipate that most of the chicks that you will be banding will be more than 10 days old, it may be preferable to band when the sun is not on the cliff. At that age, chicks can easily withstand temperatures down to 0° C. When it is cold they are much more inclined to form a huddle once the adults have left. Panickers can sometimes be contained in these circumstances by placing them in the middle of the huddle. The presence of other, non-panicking chicks helps to calm them.

Rule #3: keep the chicks together

When chicks can huddle together they seem to be most quiescent. They frequently do this of their own accord, piling on top of one another up to half a dozen deep. On colonies where the ledges are large, so that there are many chicks to a ledge, we adopt the following tactics. We carry with us 2 large (c. 30L) canvas bags (canvas daypacks are also good, but beware waterproof cordura). On arrival at the ledge we collect up all of the chicks and place them in one bag. As each chick is banded, it is transferred to the other bag. Once all are banded, we release them onto the ledge, piling them into a corner on top of one another, all facing the cliff. Then we leave the ledge at the opposite end from the chicks. We have not had any cases of chicks suffocating in the bags. The bags must be breathable, as otherwise the chicks' respiration condenses the inside and the chicks quickly get wet. It is amazing how swiftly the chicks sort themselves out once the adults return.

Rule #4: Watch out for well-meaning adults

Although many birds fly off when you arrive at a ledge, a few usually remain. Some of these may be exceptionally motivated brooders that remain on their site even when you sit right beside them. Others teeter at the edge of the ledge, hoping to return to their site, but ready to flee instantly. The chicks, once their own parent has left, actively seek out other adults in the hope of being brooded. It is not uncommon to see one motivated brooder vainly attempting to shelter a dozen or more chicks. Where the adults have remained at their site they can be useful in holding the chicks on the ledge; such birds should not be disturbed. However, the adults at the edge of the ledge can pose a hazard, as their presence lures chicks away from the cliff. If the ledge slopes away at the seaward edge, chicks approaching adults at the lip may be unable to retain their grip and end up sliding off. Also, in this area, many adults are constantly landing and taking off and these birds can easily knock chicks off the ledge. A good strategy is for the bander to get in position between the adults and the chicks, so that the chicks cannot see the adults. A chick hearing its parent will respond by trying to approach it, but other chicks appear to respond only to the sight of an adult.

Rule #5: Do everything steadily, without sudden movements

The murres are alarmed by things that move and especially by things that are moving above them. A bander approaching from below usually causes less disturbance than one coming from above. In particular, throwing down a coil of rope causes what seems like an inordinate panic. Ropes should be lowered down gradually, or carried in a bag and paid out en route. Rappelling by means of spectacular leaps would probably have an even worse effect, so it is necessary to deny oneself the fun (fast rappelling is also bad for the rope). Inch down gradually, keeping firmly balanced so that no large jerks occur. If there is a good, broad ledge where you can rest somewhat away from the birds, give them time to settle on their chicks again before commencing banding.

If the colony is accessible from below, a good plan of attack would be to lower a rope from above, then begin from the bottom and climb up. If that is not possible, climb to the bottom of the intended pitch and then band up from below. This has the advantage that, if you do not complete the section, you will not have to descend past banded birds the next day to finish it off.

Rule #6: Broad ledges are not necessarily better than narrow ones

At first sight, a big ledge with 50 or 100 chicks, seems like a perfect banding site. However, big ledges suffer from several disadvantages. If they are uneven, they may retain puddles of water. These become puddles of liquid excrement and if the chicks run into them they can get hideously mired. Those who have climbed on murre cliffs know this to be the most tragic of all sights. Also, the chicks have a lot of space in which to run about and this, along with the social facilitation, tends to promote panic behaviour. On a large ledge many adults will return and call to the chicks from the edge of the ledge, making it hard for the bander to control the situation. On a small ledge, the bander can hang in his or her harness, facing the ledge, blocking it from the adults, and facing the chicks so that any attempting to jump can be intercepted.

Rule #7: Be hard-hearted

If a chick falls or jumps, for whatever reason, there is an immediate desire to remedy the situation. This is a natural impulse, but such action needs to be carefully considered. If the chick has fallen accidentally and if the retrieval will not involve disturbing many other birds, it should be done as quickly as possible. If the chick has clearly panicked and if it continues to show this behaviour, retrieval is probably pointless, as the chick will run off the ledge again as soon as replaced. Likewise, a chick that has exhibited premature fledging behaviour and deliberately launched itself will rarely settle down. It appears that once the fledging behaviour is "switched on" only reunion with the parent will turn it off. Some of these chicks may eventually find their parents on the sea.

If you decide to climb down to fetch a chick, you may find it hard to identify once you get there, unless it is banded. Also, it may have been taken by a gull before you reach it, making the disturbance you caused

in the process pointless. If you are climbing down to the lower ledge in any case, it is better to finish the ledge you are on, then climb down and gently lob the chick back to where it originated. This technique has frequently worked. By the time you reach the lower ledge, sufficient adults may have returned to the first ledge to keep the chick in place.

Sometimes you arrive at a ledge to find that one of the chicks is already banded. Such chicks probably fell from above without being observed. We carry a slip of waterproof paper and a pencil stub and keep rough notes of the band numbers used on each ledge, so that chicks can be returned to the right ledges.

Regrettably, saving fallen chicks with an immediate mercy dash is rarely the right policy, because it may make things worse, rather than better. It is worth bearing in mind that some chicks displaced accidentally are adopted by failed breeders (we have had several examples), so a chick not retrieved is not necessarily doomed. Also, chicks or eggs taken by gulls during the disturbance caused by banding may be compensated by lower predation on other sites. Glaucous Gull chicks are not insatiable and parents only forage when they have to.

Conclusions

Banding Thick-billed Murres is not for the faint of heart. The smell, the noise, the anxiety caused by wayward chicks and the physical exertion involved, combine to make it a less than relaxing experience. However, you do learn things about the birds that you can never appreciate at a distance and this can make it rewarding even before the recoveries begin to arrive.

It really pays to know your colony, so that you know where to go first, which area to leave to last, what the best approach routes are and when the sun is on different areas. Tactics appropriate at one colony may be less so at others and a lot will depend on the temperature and the relative tameness of the breeders. Overall, identifying and using the "banding window" is probably the most vital ingredient of a successful banding campaign.

One last piece of advice. If a loud "pop" signals the explosion of a last-season's egg, stop breathing and move away as quickly as possible. Military mustard gas is tame in comparison with a year-old murre egg at close range.

Were G. N. Lawrence's "Californian" Seabirds Collected During the Gold Rush?

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In a recent contribution to the *Auk* Dave Lee (1993) summarizes the information available about specimens of the Cape Petrel *Daption capense*, Grey Petrel *Procellaria cinerea*, Brown Skua *Catbaracta (skua) lonnbergi* and moulting Arctic Tern *Sterna paradisaea* reported by Lawrence (1851, 1853) from California "in the cabinet" of Nicolas Pike, and suggests that they may have been collected in the Indo-Pacific subantarctic islands instead. While I have also speculated in the past that the two petrels and specimens of *Fregetta grallaria* also said by Lawrence (1851-53) to come from Florida probably originated in the southern hemisphere (Bourne 1964, 1967), I was unable to suggest why they were attributed to Monterey. It is now possible after more personal experience of procedures on ships to suggest some other possibilities.

While some or all of these birds could indeed have come from the subantarctic islands, this seems rather unlikely. Although at the beginning of the last century many sealers visited them (Richards 1984), the seals soon became severely reduced, and did not increase again to the extent that led to more visits by sealers including the collector George Comer until later in the century (Verrill 1895). While the islands were subsequently also visited by American whalers up to the United States Civil War, these normally came from New England, and like the warships and exploring expeditions of several nations active at that time, and the growing number of ships trading between the northern hemisphere and Australia which called there for fresh food and water, seem unlikely to have brought any birds collected back to California.

On the other hand, there was also another, much larger, group of ships regularly plying between California, where the birds were said to originate, through their normal range to New York, where they were reported, at this time, carrying the "forty-niners" from the east coast of the United States around Cape Horn to join the Californian gold rush. Judging by recent experience off South America many seabirds are likely to have struck the rigging of these ships or come to their lights at night, while bored seamen and passengers were then also accustomed to "fish" for birds, or put a boat down and shoot them, when the ship became becalmed. The naturalists on Cook's expeditions (Lysaght 1959) and John Gould (1844) among others obtained scores of similar birds in such ways. Unfortunately, the collectors of those days seem to have been remarkably casual about labelling their specimens, until for example it caused serious problems for Charles Darwin in the Galapagos (Sulloway 1982).

The most likely sequence of events to explain why birds from the Southern Ocean should have been said to originate "off Monterey" therefore appears to be as follows. Lawrence may have asked Pike who was leaving for California, or Pike may have asked some correspondent who was going there, to collect some birds. Whoever collected the birds preserved some stray specimens at unrecorded places during the passage around South America, and then packed them up off Monterey shortly before the ship arrived in California where they were likely to be busy, and left them on board to be brought back on the return voyage with a hasty covering note headed "off Monterey." In consequence, as with the *F. grallaria* said to come from Florida, Lawrence assumed that they must actually have been collected off Monterey.

A similar sequence of events may also explain a number of other old records of seabirds from unlikely places, including the similar attribution to Monterey of the type of the Swallow-tailed Gull *Creagrus furcatus* collected on a vessel coming from the Galapagos (Néboux 1840), the Yellow-nosed *Diomedea chlororhynchos* and Sooty *Phoebetria fusca* Albatrosses, Giant Petrel

Macronectes sp. and Southern Fulmar *Fulmarus glacialoides* all said by Audubon to have been collected by J.K. Townsend off the mouth of the Columbia River (Stone 1930), and a considerable number of other equally unlikely seabirds reported near ports elsewhere and also included for at least a time on many other national lists all around the world (Bourne 1967, 1992).

I am indebted to Dave Lee for helpful comments on this note.

LITERATURE CITED

Bourne, W.R.P. 1964. On the occurrence and nomenclature of certain petrels in North America. Bull. Brit. Orn. Cl. 84:114-116.

Bourne, W.R.P. 1967. Long-distance vagrancy in the petrels. Ibis 109:141-167.

Bourne, W.R.P. 1992. Debatable British and Irish seabirds. Birding World 5:382-390.

Gould, J. 1844. On the family Procellariidae, with descriptions of ten new species. Ann. Mag. Nat. Hist. 13:360-368.

Lee, D.S. 1993. Comments on four pre-1853 seabirds reportedly obtained off Monterey, California. Auk 110:402-404.

Lawrence. G.N. 1851, 1853. Additions to North American ornithology. Ann. Lyc. Nat. Hist. (New York) 5:117-118, 6:1-7.

Lysaght, A. 1959. Some eighteenth century bird paintings in the library of Sir Joseph Banks. Bull. Brit. Mus. (Nat. Hist.) Hist. Ser. 1(6):253-371.

Néboux, M. 1840. Descriptions d'oiseaux nouveaux recuillis pendant l'expedition de la *Venus*. Rev. Zool. 1840:289-291.

Richards, R. 1984. The maritime fur trade: sealers and other residents on St. Paul and Amsterdam Islands. The Great Circle 6:24-42, 93-100.

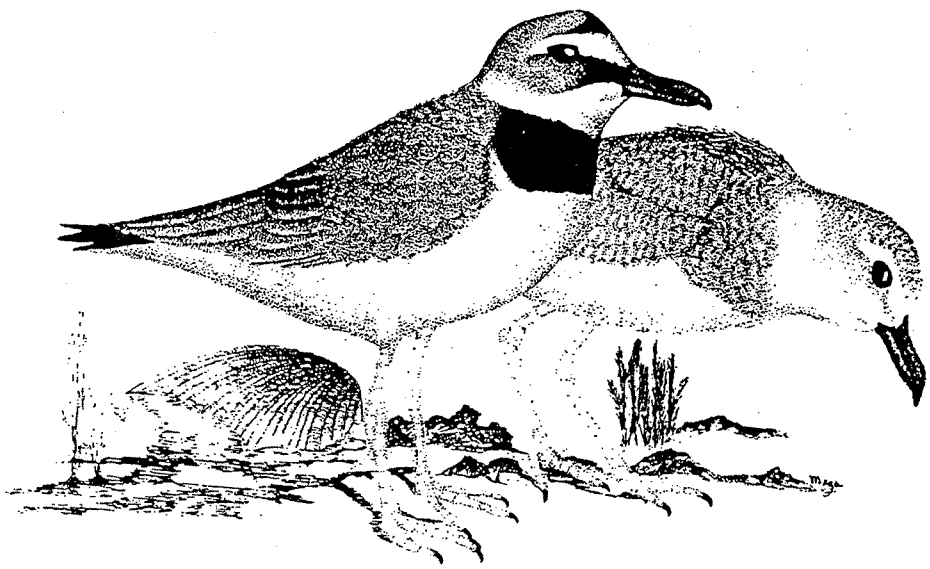
Stone, W. 1930. Townsend's Oregon Tubinares. Auk 47:414-415.

Sulloway, F.J. 1982. The *Beagle* collections of Darwin's finches (Geospizinae). Bull. Brit. Mus. (Nat. Hist.) (Zoology) 43(2):49-94.

Verrill, G.E. 1895. On some birds and eggs collected by Mr. Geo. Comer at Gough Island, Kerguelen Island and the island of South Georgia. Trans. Conn. Acad. 9(2):430-478.

Policy for PSG Correspondence and Papers

As PSG expands and becomes more active in seabird conservation, the organization and its members will be increasingly subjected to legal scrutiny. For this reason it is essential that all materials produced as "PSG documents" (letterhead correspondence, papers, reports) be held to the highest standards possible. Other than symposia proceedings, which go through normal scientific review process, reports and lengthy papers for general distribution will now be reviewed and processed by the Technical Editor of *Pacific Seabirds* (currently Steve Speich) and members of the Executive Council. All such lengthy material should be forwarded to the Editor for consideration and technical review. The PSG Chair and Executive Council will have final control over the release of such material. Members of the Pacific Seabird Group often provide comments to agencies or the public on issues of regional, national, and international significance to seabird conservation. Most of these comments are relatively brief (less than a few pages) and, if appropriate, may go out as PSG letterhead correspondence. General PSG members are **strongly encouraged** to prepare correspondence for distribution by PSG and provide this (as hard copy or, better yet, on disk or email) to your Regional Representative, Committee Chair or Council Member for review and signature. **They** will then send out the material under PSG letterhead. All such PSG correspondence and any correspondence prepared originally by Regional Representative, Committee Chairs, or Council Members should be made available (by mail, fax, or email) for review by the Chair of PSG or, in his/her absence, by another member of the Executive Council. Usually, this requires only a 1-2 day lead-time for short documents. In most cases, and for virtually all well-prepared documents, no comments or changes are necessary, and this process will not delay PSG correspondence (which is often done at the last hour!). In any case, this procedure ensures that the Chair and members of the Executive Council at least are kept apprised of all outgoing PSG correspondence and educated about issues of regional concern. The Executive Council thanks you for your cooperation.



21st Annual Meeting—Interesting, Informative, and Entertaining

The 21st PSG Annual Meeting was held in Sacramento, California, on January 26-29, 1994. The meeting was well-attended and included a wonderful variety of presentations, conservation meetings, and social occasions. PSG would like to thank profusely the Local Committee (Dan Anderson, Ken Briggs, Harry Carter, Frank Gress, Deborah Jory, Paul Kelly, Leopoldo Moreno, and Nils Warnock) for their outstanding efforts and for facilitating a successful and enjoyable meeting. The Scientific Program Committee (John Piatt, Harry Carter, Gus van Vliet, and Nancy Naslund) are likewise to be applauded for organizing an interesting program. PSG is grateful to all our co-sponsors for logistic and financial support: California Fish and Game, U. S. National Biological Survey, University of California at Davis, and Sacramento State University.

PSG is pleased that colleagues from Japan, Russia, Great Britain, eastern Canada, and Iceland could participate in the meetings, thereby greatly increasing the geographic scope of presentations on seabird biology and conservation beyond the usual U. S./Canadian west coasts and Hawaii. We were particularly pleased to welcome three Japanese seabird biologists—participants from this Pacific Rim country have been notably absent from most previous meetings. We hope the increasing trend for international attendance at PSG meetings continues well into the future.

Highlights of the scientific program included a "Symposium on Behavior, Ecology, and Status of the Rare Alcids" (see Abstracts), which included general overviews and detailed papers on the biology of seven rare alcid species from around the Pacific Rim. The first day of the meeting also included several large-screen video presentations of seabird research, and, by all accounts, these "video papers" were a popular addition to the usual presentation media. Other session topics included Marbled Murrelets, population dynamics, breeding biology, feeding ecology, biogeography, and conservation biology. Judging by the high attendance throughout the meetings (and up to the very last paper!), presentations were of high caliber and interest. Committee meetings on a variety of issues (Marbled Murrelets, Xantus' Murrelets, seabird restoration, seabird monitoring, conservation, Baja seabirds) were also well-attended and marked by active discussion and debate. The PSG banquet on the last evening was highlighted by a Lifetime Achievement Award presented to Dr. Miklos Udvardy for his contributions to the study of seabirds. The evening ended with an unusual (but lucrative) "bow-tie and t-shirt" auction, with some members literally giving the shirts off their backs to the PSG cause. In summary, the 21st Annual PSG Meeting was lively, interesting, and entertaining. We all look forward to the next meeting in San Diego!

Minutes of the 1994 Pacific Seabird Group Executive Council Meeting

The following is a summary of the proposed minutes of the Executive Council Meetings held on 25 and 27 January, 1994 in Sacramento, California. Anyone interested in a complete transcript of the meeting should contact secretary Vivian Mendenhall. A quorum was present at both sessions. The minutes of the previous meeting were approved.

Executive Council Matters

The new bylaws were presented and will go into effect at the end of the 1994 meeting. The council voted to disband the PSG 2000 Committee.

Treasurer's Report

Ken Warheit reported on financial matters of the group. He pointed out that even though we had more income than expenses, very little money is available for use because much of it goes to the endowment fund. He recommended raising dues by $5.00 and discussion of the pros and cons ensued. Tasker encouraged the group to raise dues in order to maintain a cushion of funds for emergencies. Coulter suggested 2 times the standard operating expenses as a good cushion. The council passed a motion to raise annual dues to $20.00 with a rate of $13.00 per year for students subject to approval by the general membership. Other methods of increasing income suggested included higher fees for meetings. Piatt called for suggestions on ways in which to allocate PSG funds for support of conservation projects.

Our exchange relationships with other groups were discussed and Bill Everett suggested that the Western Foundation be the official repository for journals that we get.

We had over 450 members last year. This year 283 people paid their dues before notices were sent out. There are 49 life members and all but 4 are paid up. It was proposed to have a display and brochures to put out at meetings of other societies in order to attract new members. Rauzon and Sharpe were assigned to make a poster and brochures.

The group discussed the status of the endowment fund and how we are going to raise and spend money. Piatt proposed that we consult with a professional fundraiser to aid in generating enough money so we can start doing more for conservation and supporting students. The group was willing to spend some money to hopefully generate more money and will act on any proposals

to accomplish this. Members experienced in fundraising suggested that we would need to prepare a prospectus which would i) demonstrate what PSG has done historically, ii) outline plans for future projects, and iii) provide a financial statement to potential donors.

Divoky expressed the concern of some members that all the life memberships are going into a fund that can't be used for several years more. He suggested capping the endowment fund at $50,000 instead of twice that. He also suggested allowing life members an option to put their money into a fund other than the endowment.

The group discussed the mechanisms and policy for spending money. Forsell moved that we follow the guidelines of letting the chair consult one other person on the council before spending $500 or less, have a vote of all the officers if the amount falls between $500 and $1000, and have a vote of the entire council before spending over $1000. The motion passed.

Beth Flint gave the secretary's report and suggested that if the officers all had electronic mail capability, more of the load on the treasurer could be shifted over to the secretary.

Meetings

Dan Anderson reported that 125 people had pre-registered so far and that they were expecting175 by tomorrow. California Fish and Game subsidized the printing costs for the meeting. There was discussion about the costs of meetings and the advantages of less formal venues. Divoky called for someone to track meeting costs and keep files of former meetings for each local committee to use for those who need ideas and structure. Forsell mentioned that academicians fine late January a difficult time because it is the beginning of the term. Scott Hatch objected to having the meeting earlier because it would be too close to the Christmas holidays.

Bill Everett reported on plans for a meeting in San Diego in 1995. He said that the room costs would be high there but that it is less expensive to fly there than many other location. He described the four finalist choices for a site and the group expressed a preference for the Catamaran Hotel on Mission Bay. The motion passed that we hold the meeting in San Diego next year; the dates of the meeting will be January 10-13. Suggestions for the year after next include Vancouver, B.C.; Guaymas, Sonora; and Humboldt State, California.

Conservation Committee

Craing Harrison noted that the Conservation Committee report was available. He asked that the regional representatives start taking a more active role in conservation issues. The request from the Danish Ornithological Society for funding to save the last seabirds in the Philippines was discussed and the council voted to provide $1000 to the project.

Publications

Steve Speich described his ideas for changes in the group's publication. Divoky asked that interestsagreed they could express themselves in the new forum section of *Pacific Seabirds*. Piatt thought that the conservation chair should at least run things by the chair and by all the officers for letters to people like the Secretary of Interior.

Standing Committees

The Marbled Murrelet Technical Committee made the White Paper on the Status of Marbled Murrelets available to the council. Steve Speich suggested we publish it as a Technical Paper. Malcolm Coulter moved that we thank Kim Nelson for all that she has done on behalf of the committee and the murrelet. The motion passed.

Divoky appointed Bill Everett as head of the Xantus' Murrelet Committee. The Xantus' committee recommended that we petition the US Fish and Wildlife Service to list the Xantus' Murrelet. The committee will prepare the petition.

Scott Hatch reported that the monitoring committee meeting had been well-attended. The next project that people committed to was to build a data set. The first species done will be the Common Murre with a focus on populations, productivity, and phenology. It was suggested that we attempt to develop a Memorandum of Understanding with the National Biological Survey to acquire some funding.

The Baja committee was not able to meet this year.

The Marine Waterfowl committee has requested that the U.S. Fish and Wildlife Service review the status of Eastern Harlequin Ducks.

International and Organizational Affiliations

Our Japan connection was made stronger with the visit of Harry Carter and Leah DeForest to Japan. The PSG will attempt to write letters supporting the funding of John Fries and Leigh Ochikubo to study in Japan.

Doug Forsell reported on the meeting of the Ornithological Council.

Malcolm Coulter reported on our membership in ICBP (Birdlife International).

Minutes respectfully submitted by
Beth Flint, secretary

1993 TREASURER'S REPORT

Included in this report are two annotated tables detailing the financial activities of the Pacific Seabird Group during the 1993 calendar year. These tables summarize the 1993 cash flow activities of the group, as well as our total assets as of 31 December 1993. Additional detailed and additional financial information is discussed below.

Income and Expenses

Our total gross income for 1993 was $39,840.66, of which $26,064.08 (65 percent) was generated by the 1993 ($18,399.08) and 1994 ($7,665.00) Annual Meetings. Because our annual meetings usually take place in January or February, associated income and expenses for each meeting are spread over a two year period. This meeting related income, and the expenses reported below are those associated with 1993 calendar year only. Complete accounting for the 1993 Annual Meeting was discussed in the 1993 Spring issue of the Pacific Seabird *Group Bulletin* (Vol. 20, Number 1, p. 31); the accounting for the 1994 Annual Meeting is described below. Regular and Life Membership dues accounted for an additional $7,526.17 (19 percent) of income, while interest and dividend income from three accounts totaled $3,117.47 (8 percent). Fund-raising income and sales of back issues of the *Bulletin* totaled $3,132.64 (8 percent).

As with the total income, the majority of our 1993 expenses were associated with the annual meetings ($18,498.61 or 60 percent). The 1993 Annual Meeting expenses totaled $17,947.64, which was $1,596.56

CATEGORY	AMOUNT
Income	
Annual Meeting Income (excluding membership dues, donations, and sales)	$19,417.50
Donations collected during meeting	$2,048.00
Membership Dues collected during meeting	$855.00
Sales:	
PSG Tote Bags	$41.00
Wm. Spear Pins	$1,031.00
PSG T-shirts	$2,394.00
Total Income	**$25,786.50**
Expenses	
Annual Meeting Expenses (hotel, catering, field trips, office supplies, etc.)	$15,356.28
Sales:	
Wm. Spear Pins	$850.50
PSG T-shirts	$1,420.23
Total Expenses	**$17,627.01**
Income over Expenses	
Annual Meeting	$4,061.22
Donations	$2,048.00
Membership Dues	$855.00
Sales:	
PSG Tote Bags	$41.00
Wm. Spear Pins	$180.50
PSG T-shirts	$973.77
TOTAL	**$8,159.49**

PACIFIC SEABIRD GROUP BALANCE SHEET
31 December 1993

Account	1993	1992
Assets		
1993 Local Committee		$2,579.85
1994 Local Committee	$6,793.80	
Bulletin Account	$353.08	$1,501.73
Checking Account	$5,560.08	$4,493.33
[1] United Kingdom Savings Account	$428.06	$320.69
Dean Witter—Savings	$7,058.69	$7,347.02
[2] Dean Witter—Endowment	$45,524.91	$38,521.85
[3] Total Assets	**$65,718.62**	**$54,764.47**
Liabilities & Equity		
[4] Liabilities	$2,500.00	$0.00
Equity	$63,218.62	$54,774.33
[3]**Total Liabilities & Equity**	**$65,718.62**	**$54,774.33**

[1]The United Kingdom account is managed by Mark Tasker and is used for deposits of membership dues paid in pounds. A conversion rate of US$1.00 = £0.67 was used to calculate amount in dollars. The 1992 and 1993 closing balances equaled £214.86 and £286.80, respectively.

[2]Total reflects actual dollar amount deposited or interest earned at the time of deposit. Deposits are made by purchasing shares, the dollar value of which fluctuates with the market. On 1 January 1993 we had 4,056.692 shares at $9.30 per share ($37,727.23). On 31 December 1993 we had 4,799.782 shares at $9.31 per share ($44,685.97).

[3]Does not include the Pacific Symposium Account. See Pacific Seabird Group Bulletin (1993: Vol. 20, Number 1)

[4]$2,500.00 allocated to publish the 1993 Marbled Murrelet Symposium

PACIFIC SEABIRD GROUP CASH FLOW REPORT
1 January - 31 December 1993

Category		Income
[1]	1993 Annual Meeting (registration, etc.)	$16,351.08
	1993 Annual Meeting (raffle & auction)	$2,048.00
[2]	1994 Annual Meeting (registration)	$7,665.00
	Fund Raising: T-shirts	$2,184.00
	Fund Raising: Glassware	$615.94
[3]	Fund Raising: Slide-exchange profit	$322.70
[4]	Gross Sales	$10.00
	Interest Earned (checking accounts)	$102.74
	Income Dividend (Dean Witter - Savings)	$211.67
	Income Dividend (D. Witter - Endowment)	$2,803.06
[5]	Membership Dues	$6,446.47
	Life Membership	$1,080.00
Total Income		**$39,840.66**
Expenses		
	Bank Charges	$34.05
	Bulletin	$4,194.08
	Ornithological Council Dues	$250.00
	ICBP Dues	$200.00
	Officer's	$1,830.91
[1]	1993 Meeting Expenses	$17,947.64
[2]	1994 Meeting Expenses	$550.97
[6]	Fund Raising: T-shirts	$3,428.38
	Fund Raising: Glassware	$515.02
[7]	Grants	$1,974.90
	Taxes	$5.00
Total Expenses		**$30,930.95**
Total Income over Expenses		**$8,909.71**

CASH FLOW REPORT
Footnotes

[1] Includes only the 1993 income and expenses associated with the February 1993 Annual Meeting. See *Pacific Seabird Group Bulletin* (1993: Vol. 20, Number 1) for complete financial information about the 1993 Annual Meeting. Income excludes membership dues, donations, or fund raising moneys. Expenses excludes all fund raising expenses.

[2] Includes only the 1993 income and expenses associated with the January 1994 Annual Meeting. See discussion of annual meeting above for complete financial information about the 1994 Annual Meeting. Income excludes membership dues, donations, or fund raising moneys. Expenses excludes all fund raising expenses.

[3] See *Pacific Seabird Group Bulletin* (1993: Vol. 20, Number 1) for complete accounting for slide-exchange income.

[4] Sales from back issues of bulletin

[5] 1993 and 1994 membership dues collected during 1993 (includes dues collected as part of 1993 annual meeting registration - number estimated because accounting did not distinguish between 1992 and 1993 payments).

[6] $1,420.23 of the $3,428.38 T-shirts expenses are associated with the 1994 Annual Meeting

[7] Japanese Murrelet initiative. See *Pacific Seabird Group Bulletin* (1993: Vol. 20, Number 2) for details.

more than the 1993 Annual Meeting non-donation/raffle income (e.g., money from registration). Fund raising activities also ran a deficit in 1993, with expenses totaling $810.76 more than income. However, because fund-raising expenses usually involve the production of goods such as T-shirts, the expenses should be spread over the years in which the goods are sold. For example, $1,420.33 of the $3,428.38 fund-raising expenses were due to the 1993 production of T-shirts sold during the 1994 Annual Meeting; $1,420.33 in expenses in 1993 produced $2,394.00 in income in 1994 (see discussion of 1994 Annual Meeting below). Pacific Seabird Group's standard operations also ran a deficit in 1993. Standard operating expenses, including the production of the Bulletin, Officer's expenses, bank charges, taxes, and organizational membership dues (e.g., ICBP) totaled $6,514.04, which was $67.57 more than the income generated from membership dues. Additional income generated from the raffle and auction during the 1993 Annual Meeting and interest and dividends earned from our checking and savings accounts offset this deficit, and enabled PSG to fund the Japanese Murrelet Initiative (see *Pacific Seabird Group Bulletin* (Vol. 20, Number 2). If the income and expenses associated with the **1994** Annual Meeting are subtracted from the respective totals (see Cash Flow Table below), the Total Income over Expenses in 1993 was $1,795.68.

Membership

Year-end calculations of membership totals are somewhat misleading in that membership for any given year is paid over a two year period. In other words, 1993 members paid their dues over a period from late 1992 (when dues notices were first mailed) to fall 1993. Likewise, 1994 members paid their dues from December 1993 through Spring 1994 (and payments are still trickling in). Therefore, the membership dues presented in the 1993 cash flow report reflect both 1993 and 1994 memberships. As of 9 May 1994 our total paid membership was 444, of which 45 are Life Members paid in full, 4 are Life Members not paid in full, 314 are Individual Members, 41 are Student Members, and 40 are Family Members (20 families). Of these 316 Individual and 39 Student Members, 32 and 21, respectively, joined during the 1994 Annual Meeting in Sacramento. Of the 81 members in arrears as of 9 May 1994, 47 or 58 percent joined in 1993. Finally, 54 institutions worldwide receive the PSG Bu*lletin*, of which 25 are paid subscriptions, 19 are journal exchanges, and 10 are goodwill gifts.

Annual Meeting

The 1994 Local Committee produced a scholarly, enjoyable, and remarkably profitable meeting in Sacramento. Frank Gress provided an exceptionally organized and detailed accounting of the income and expenses associated with this meeting, and I thank him for saving me hours of work. A detailed look at the income and expenses resulting from the 1994 annual meeting is as follows (income and expenses for this meeting occurred during fiscal years 1993 and 1994, and therefore will be reflected in both this and next year's Treasurer's report):

Endowment Fund

On 31 December 1993 PSG owned 4,799.782 shares in the Dean Witter U.S. Government Securities Fund. At $9.31 per share, our year-end 1993 Endowment Fund principle equaled $44,685.97. This is an increase of $6,958.73 over year-end 1992 ($37,727.23: 4,056.692 shares at $9.30 per share). $2,803.06 of the $6,958.73 increase was income dividend, giving us a yield of 7.43 percent on our investment. Unfortunately, because our endowment is invested in a bond-associated mutual fund, its total value will fluctuate with the bond market, which has declined over the past several months. On 6 May 1994 Dean Witter U.S. Government Securities Fund was valued at $8.64 per share. The same 4,799.782 shares worth $44,685.97 on 31 December 1993 is now worth $41,470.12 - a decline of $3,215.85 or over 7 percent of the total value of the endowment. Perhaps PSG should consider diversifying its endowment portfolio.

Ken Warheit, Treasurer

Report of the Xantus' Murrelet Technical Committee

Xantus' Murrelets *Synthliboramphus hypoleucus* are small (average 167 grams) black and white alcids that breed on a few islands off the coast of Southern California and most of the islands off of the west coast of Baja California. They nest in crevices or under bushes, lay a typical clutch of two eggs and produce precocial young that go to sea within several days of hatching. During the non-breeding season, Xantus' Murrelets typically range as far north as Northern California and at least as far south as Cabo San Lucas, Baja California.

Although the species is frequently encountered at sea, surprisingly little is known about its natural history or ecology. Most of the data on breeding biology comes from studies done at Santa Barbara Island, one of the smallest of the Southern California Channel Islands. Up to 95% of the Xantus' Murrelets known to breed in U.S. territory do so on Santa Barbara Island, which is controlled by the National Park Service and is part of the Channel Islands National Park.

At the 1992 PSG meeting in Oregon the question was raised regarding the status of the species. Indeed, the U.S. Fish and Wildlife Service has included the northernmost of the two races of Xantus' Murrelet (*S.h. scrippsi*) as a candidate (Category 2) for the endangered species list. This category includes species for which listing as endangered or threatened may be appropriate, but information on biological vulnerability is not currently available to support endangered listing status. The overwhelming majority of birds breeding on Santa Barbara Island are *scrippsi*, but at least one either nominate race (*S.h. hypoleuca*) or intermediate individual has been recorded there. The taxonomy of the species is complex and dynamic, and not entirely clear.

Since there was a great deal of concern expressed at the 1992 meeting, the PSG Conservation Committee suggested that a group of interested and knowledgeable persons convene to investigate the species' status, consider pertinent issues, and report back with findings and recommendations. Thus the Xantus' Murrelet Technical Committee was born, and has spent much of the last two years collecting data and discussing a wide range of topics and questions.

One of the problems facing the committee was a lack of reliable population status information, especially for the Baja California breeding colonies. Although it is likely that the majority of Xantus' Murrelets breed there, estimates of the population size (10,000 to 20,000 individuals) are guesses at best, and most of the breeding colonies are also inhabited by introduced predators. No studies have been done in

Mexico to assess population trends or impacts of feral animals.

At Santa Barbara Island, Harry Carter estimated a 1992 breeding population of about 1,700 individuals, substantially fewer than the 4,400+ estimated by George Hunt's team in the mid 1970's. In addition, Charles Drost's studies have shown that native mice annually destroy significant numbers (up to 44%) of eggs, and Barn Owls annually take large numbers of Xantus' Murrelet adults (up to 10%) on Santa Barbara Island.

The committee determined that a wide variety of other real or potential threats face Xantus' Murrelets throughout their range, including oil spills, rat introductions, commercial fishing operations, loss of breeding habitat through erosion or vegetation changes, and military sonic or weapons testing (to name a few).

After thorough consideration, the committee concluded that sufficient information was now available to warrant an upgrade of the status of the species to either threatened or endangered. Upon their recommendation at the 1994 meeting, the Executive Council of PSG directed the committee to prepare appropriate documentation (a "listing package") to submit to the U.S Fish and Wildlife Service in the form of a formal petition to request the change in status.

It is unlikely that the listing of Xantus' Murrelet will cause the level of controversy associated with the Marbled Murrelet issue, and we hope that the net result of listing will be not only much-needed efforts to answer many questions about the species' status, but ultimately a secure future for this rare and unique seabird.

William T. Everett

Reportof the Seabird Monitoring Committee

The Seabird Monitoring Committee now has representatives from all the intended regions of the North Pacific. During the year, we were pleased to recruit the cooperation of two colleagues from the Asian side. Representing China is Dr. Lu Jianjian from the Institute of Estuarine and Coastal Research, East China Normal University, Shanghai, and from Japan we have Dr. Yutaka Watanuki, Laboratory of Applied Zoology, Hokkaido University, Sapporo. Dr. Watanuki attended the annual meeting in Sacramento, so many PSG members have already met him.

The seabird monitoring database is becoming a reality. During this past year, the Alaska contingent developed a prototype version of the database using Foxpro data management software. The system thus far consists of 11 relational files and some basic report generating routines. As a pilot effort, we entered all monitoring data from studies conducted in 18 years (since 1956) on Middleton Island, north-central Gulf of Alaska. The Middleton data probably are fairly typical in terms of quality, complexity, and accessibility, and they present most of the inconsistencies and problems that arise in trying to develop a standardized data entry and retrieval system. Various members and friends of the Seabird Monitoring Committee were able to critique and improve the system during a productive session at the Sacramento meeting.

The group decided to follow up with additions to the database from around the North Pacific during the coming year. To get things rolling, we decided to focus on Common Murres, because of their wide distribution and general interest in their utility as an indicator species. Contributors from California, Oregon, Washington, Alaska, and Russia will collate data on three parameters of murre population biology—numbers, productivity, and breeding chronology. Participants from Hawaii, British Columbia, and Japan have offered to work with data for other species such as Red-tailed Tropicbirds, Ancient Murrelets, or Rhinoceros Auklets.

Through these efforts, the Committee hopes to demonstrate convincingly the value of this approach and, within the next several years, to set the whole process in motion.

Scott A. Hatch

Report of the Marbled Murrelet Technical Committee

As your new coordinator I would like to say "hello" and to remind you that the MMTC's strength lies in the expertise and ideas of its members. I would appreciate hearing from you about tissues that need addressing, directions you would like to see the committee take, how I can best serve you as the coordinator of your committee, and any other ideas you might have. We are working to make the transition between coordinators as smooth as possible. However, if you feel that you have been lost in the shuffle, please let me know.

In the past, updates on research activities on Marbled Murrelets have been summarized in this section of *Pacific Seabirds*. To avoid duplication, these updates will now appear in "Regional Reports." We will save this space for interesting findings and research results.

Proposed Designation of Critical Habitat for the Marbled Murrelet

The U. S. Fish and Wildlife Service (USFWS) recently requested comments on "Proposed Designation of Critical Habitat for the Marbled Murrelet" (Federal Register, Vol. 59, No. 18, pp. 3811-3824). Comments were submitted on behalf of PSG and the MMTC. A brief summary of these comments follows, and copies of the full response are available upon request.

Our main concerns were that 1) designation of critical habitat was proceeding without full use of available information, 2) there was no attempt to designate critical marine habitat, and 3) breeding areas in federal parks and wilderness areas, and state and private lands were not being designated as critical habitat. We also noted that some of the facts presented under "ecological considerations" were outdated or incorrect.

Publication and Report Updates

The following revised versions of PSG protocols are currently available:

Methods for surveying for Marbled Murrelets in forests: a protocol for land management and research. C. J. Ralph, S. K. Nelson, M. M. Shaughnessy, S. L. Miller, and T. E. Hamer (compilers).

Guidelines for collecting data at Marbled Murrelet nest trees or landing trees. T. E. Hamer (compiler).

Techniques for finding tree nests of the Marbled Murrelet. N. L. Naslund and T. E. Hamer (compilers).

Publications of the proceedings of the 1993 Marbled Murrelet Symposium (S. Kim Nelson and Spencer Sealy, editors) is moving along on schedule. The proceedings will be published in the second issue (1994) of *Northwestern Naturalist*.

Marbled Murrelet Recovery Team

The Marbled Murrelet Recovery Team has been meeting since February 1993. Members of the team include Gary Miller (leader), USFWS; Steve Beissinger, Yale University; Harry Carter, National Biological Survey; Tom Hamer, Hamer Environmental; Dave Perry, Oregon State University; and Blaire Csuti, University of Idaho. The team began by focusing on Critical Habitat designation and its role in the recovery planning process. The draft Critical Habitat proposal was complete by USFWS staff. The team has also established a process for accomplishing the goals and objectives set by the Regional Director, written the recovery goals and objectives, and begun to write the draft Recovery Plan. The final draft plan should be ready for release this summer.

Nancy Naslund, Coordinator

Welcome your New MMTC Coordinator

I resigned as Chair of the MMTC at the PSG Annual Meeting in Sacramento. Nancy Naslund of the USFWS is replacing me as the new MMTC Coordinator (the Chair is now referred to as Coordinator). Nancy as a M. S. degree from the University of California, Davis and has been working with Marbled Murrelets since 1988. She has been a member of PSG since 1981 and active in the MMTC since 1989. Please join me in welcoming Nancy as your new MMTC Coordinator.

S. Kim Nelson

Summary of the 1994 MMTC Meeting

The Marbled Murrelet Technical Committee met on 25 January, 1994. In the morning session the committee discussed the Inland Survey Protocol. A presentation on recommended changes to the protocol was presented by Steve Courtney, Jill Bowling, and Neal Wilkins. In addition, Mike Horton from the USFWS presented the Service's recommendations for protocol modification. A discussion by the group followed. In the afternoon, MMTC subcommittees met to address specific protocols and topics of concern. Subcommittee meetings included the following groups: Inland, Education, Research Priorities, At-Sea Captive Care, and Vocalization.

S. Kim Nelson

Nancy Naslund New Coordiinator for MMTC

Kim Nelson stepped down from the chair of the Marbled Murrelet Technical Committee (MMTC) this year, after a period of major growth for one of PSG's most active committees. During the period that saw national attention focus on the Marbled Murrelet, Kim made sure that PSG remained in the forefront of the discussions on the status and conservation of this species.

Nancy Naslund has been selected to replace Kim as the new coordinator of the MMTC; she brings to the postion a diverse background in conservation and seabird research. Nancy began working on seabirds as an undergraduate at UC Santa Cruz (UCSC) where she conducted a study on the reproductive biology of Least Terns in San Francisco Bay and assisted with censusing of other waterbird colonies. Throughout the early 1980s her main interest was in raptors. She was an active member of the Predatory Bird Research Group at UCSC; conducting extensive studies on Peregrine Falcons in the wild and assisting with the care of captive falcons. Among other duties, she wrote assessments for reintroduction of the Bald Eagle in northern and central California and summarized habitat characteristics of the California Condor for the California Condor Recovery Team and the Peregrine Fund. Her experience with captive birds expanded with her involvement with Native Animal Rescue, and Nancy has personally cared for many hundreds of abandoned chicks, as well as injured and oiled birds comprising dozens of different species. Throughout the 1980s, Nancy assisted with an on-going bird banding study at Younger Lagoon, mist-netting and banding land birds, among other things. For this project, she developed and conducted a study on multi-seasonal associations between land birds and habitat characteristics.

Nancy's focus on seabirds returned in 1988, when she spent part of a season on Midway Island assisting with a study on the reproductive biology and behavior of Red-tailed Tropicbirds. Returning to California, she spent the summer studying Marbled Murrelets at inland forest sites for the US Forest Service. From 1989 to 1991, Nancy designed and conducted a graduate research study on the breeding biology and at-sea distribution of Marbled Murrelets in central California. This culminated in the completion of her M.Sc. thesis in the Department of Marine Biology, UCSC, in 1993. In 1991, Nancy moved to Alaska and worked for the U.S. Fish and Wildlife Service on studies of Marbled Murrelets on Naked Island, Prince William Sound. These studies included inland and at-sea surveys and documenting nest stand and nest-tree characteristics. Other alcid studies she has participated in include field research on Cassin's Auklets and Murres on the Farallon Islands (1990), Tufted and Horned Puffins in the Aleutian islands (1991-1992), Xantus Murrelet on the Channel Islands (1992), and Kittlitz's Murrelets in Alaska (1993).

Nancy has been an active member of the Pacific Seabird Group since 1982, and was local chair for the 1991 PSG Annual Meeting in Monterey, California. Nancy has been an active member of the Marbled Murrelet Technical Committee (MMTC) since 1988, where she has been particularly involved with developing MMTC guidelines for nest-searching and protocols for captive care. She currently serves as a Science Team member for the Washington Department of Natural Resources Habitat Conservation Plan.

Elections Committee Report

Congratulations to the following newly elected officers and regional representatives. Thanks to all who were willing to run for an office and donate their time to the Pacific Seabird Group.

Officers

Chair-elect:	Mark Rauzon
Secretary	Vivian Mendenhall

Regional Representatives

Alaska and Russia	Dave Irons
Canada	Tony Gaston
Washington/Oregon	Roy Lowe
Northern California	Jean Takekawa
Southern California	Pat Baird
Non-Pacific United States	James Lovvorn
Pacific Rim	Ken McDermond
Old World	Mark Tasker

Mark Rauzon, Chair-elect of PSG's Executive Council, will be program chair for the San Diego meeting in January 1995 and will assume the duties of Chair at the end of that meeting. Mark has been a PSG member since 1975 and has conducted research at widely scattered locations over the past two decades. He was initiated into seabird research in 1975 in Alaska as part of the federal government's OCSEAP exercise. In the early 1980s Mark worked on the Hawaiian Islands as an assistant refuge manager for the Hawaiian and Pacific Islands National Wildlife Refuge where, in addition to many other duties, he studied the reproductive biology of tropical seabirds. His master's degree was obtained from the University of Hawaii with his thesis addressing the effects and eradication of feral cats on Jarvis Island. In the late 1980s he returned to the mainland where, as an environmental consultant, he has studied cormorants breeding on bridges and the status and trends of wildlife in the San Francisco estuary. His continued involvement with Pacific Island seabirds includes research on the Hawaiian Stilt and the problems of feral cats. In addition to his research and management activities Mark is an artist whose work has frequently appeared in PSG *Bulletins* and in the eleven popular books he has written on natural history.

1995 Annual Meeting to be held in San Diego

The **22nd Annual Meeting of the Pacific Seabird Group** will be held in San Diego, California on January 10-13, 1995. The meeting will include general papers and a symposium on Island Restoration and Seabird Enhancement.

Symposium papers are invited for the following topics:

- Population Assessment
- Predator Control
- Vegetation Management
- Legal Perspectives
- Resource Protection/Oil Spill Prevention Planning
- Oiled Bird Cleanup/Cost Effectiveness
- Habitat Rehabilitation
- Recolonization/Attraction Studies
- Genetic Studies
- Captive Breeding

This symposium will address methods and strategies for restoring/reviving threatened seabird populations throughout the world, especially in Mexico, Alaska, Japan, and New Zealand. Speakers will be invited to attend from these regions. If PSG receives a grant from the United States Fish and Wildlife Service to host twenty-five Mexican professionals and students, we will attempt to make training monies available to a few invited participants recognized as experts in their fields of "restoration."

The meeting will be held at the Catamaran Resort Hotel situated on Mission Bay in north San Diego. The beach is one block away and rooms have beach or bay views. Discount room rates were negotiated for the period of 9-13 January, 1995. Rates are $89 per night for a single, $99 for a double, and $15 per extra person. Almost half of the rooms come equipped with a kitchenette. Food is available at the hotel and other inexpensive eateries in the immediate vicinity.

Airfare to San Diego is relatively inexpensive—add the delicious and inexpensive South of the Border cuisine and you have a working vacation that features ocean, sun, and balmy weather.

Field trips to the Anza Borrego Desert, the Salton Sea, and the Coronados Islands will make this a memorable PSG meeting. A complete announcement and call for papers will be mailed in late summer. For more details about the program, contact the program chair, **Mark Rauzon, 510-531-3887.** For information concerning logistics or volunteering, contact **William Everett,** chair of the local committee, **619-589-0480.**

Nominations Sought for 1995-1996 Officers

Due to the reorganization of the regions and subsequent election of all the regional representatives last year, nominations are being sought for only three offices to serve for 1995-96 terms. These offices are Chair-Elect, Vice-chair for Conservation, and Treasurer.

If you are interested in becoming an officer of PSG please nominate yourself. If you would like to nominate a PSG member for one of the positions send the name and phone number of the nominee to **Doug Forsell, PSG Elections Committee, 6 Arlie Dr., Annapolis, MD 21401,** or phone Doug at 410-224-2732 during the day or 410-626-8486 evenings. All nominations, must be received by 30 July.

Karl W. Kenyon Receives Lifetime Achievement Award

The Inaugural Lifetime Achievement Award, presented at the 1993 Annual Meeting of the Pacific Seabird Group, went to Karl W. Kenyon for his pioneering work on Aleutian and Hawaiian avifauna. Kenyon's contribution to Pacific seabirds spans seven decades and greatly advanced the understanding of the ecology of Pacific seabirds.

Karl Walton Kenyon was born in 1918 in La Jolla, California. As a youth he roamed San Diego County. He and a friend had a small boat and they caught and sold seafood to the neighbors. His friend went on to become the famous oceanographer Townscend Cromwell. Karl and another friend collected bird eggs. He once climbed a tall eucalyptus tree to get Great Blue Heron eggs. When he was halfway up, the land owner pulled up in a fancy car and called him down. The land owner was Bing Crosby.

Kenyon attended Pomona College from 1936 to 1940. He then entered Cornell University where he earned a master's degree studying Baltimore Oriole nest site selection.

Drafted in WWII, he served as a Navy fighter pilot. Karl strafed and bombed in the Pacific theatre, supporting landings in the Marshall and Gilbert Islands, as well as in New Guinea, Saipan, Guam, Rota, and Leate, Philippines where he was shot down and rescued at sea in 1944. In total, he flew 97 combat flights.

Two events during Kenyon's youth were particularly important to him. While in school, Karl visited Peru by steamer in 1938 with his professor, who got sick and was unable to accompany Karl on his tour. Left to his own devices, he visited the seabird colonies and climbed a volcano, which nearly cost him his life. After the war, Karl bought a sailboat and sailed down the Baja coast with his friend, a feat not casually repeated even today. These two experiences set a pattern for his life's work. Both were risky and both provided new and important data. Karl published several important papers from his experiences and his impeccable field notes are invaluable today.

Bing Crosby had another impact on Karl's life when he mentioned on the radio that the Navy was killing albatross on Midway Island. Kenyon, who was working for Vic Scheffer with the Bureau of Sport Fisheries and Wildlife, was immediately dispatched to the island to address the problem of birds flying into aircraft. When he arrived on Midway Island, the Commanding Officer asked "When do we start the kill, Karl?" The CO of the base thought Karl's presence was a tacit go-ahead to kill the nuisance birds. To teach a lesson to the CO, Karl allowed a small kill on a triangle where the runways met. As birds were killed others kept coming in to replace them. Dead bodies were dumped at sea but floated ashore and had to be picked up from the beach. Karl then recommended moving the dunes 300 feet back from the runway in order to place the soaring birds out of harm's way. The albatross would lose altitude over dunes instead of over the runway. The work cost millions of dollars but it worked.

Kenyon was one of the first biologists to document the aircraft/bird hazard situation. Other examples of his pioneering efforts include one of the first beached bird surveys in San Diego County, published in the *Condor* 1943 (K. W. Kenyon. 1943. Birds found dead on beach. *Condor* 45 (2), 76.) and the first observation of plastics impacting the marine environment. He published an article in the *Auk* in 1959 indicating that Laysan Albatrosses swallow indigestible material (K. W. Kenyon and G. Kridler. 1969. Laysan Albatross swallow indigestible matter. *Auk* 86(2), 339-343.). But his most famous paper concerns the homing ability in Laysan Albatrosses. This paper, published in1958 (K. W. Kenyon and D. Rice. 1958. Homing ability of Laysan Albatross. *Condor* 60(1), 3-6.), describes an experiment in which albatross were flown to Pacific Rim air stations and released. The short amount of time that it took the birds to return to their nests on Midway is an oft-repeated fact in popular literature on bird movements. With Dale Rice, Kenyon co-authored the seminal work on the breeding, distribution, and life history and population of the North Pacific albatrosses and the breeding cycle and behavior of Laysan and Black-footed Albatrosses (K. W. Kenyon and D. Rice. 1962. Breeding distribution and life history and population of the North Pacific albatrosses. *Auk* 79(3), 365-386.).

Kenyon was also the first to do major work on Steller's sea lions, northern fur seals, and other ice seals and walrus, Alaskan sea otters, and Hawaiian monk seals. In 1972, his paper, "Man Verses the Monk Seal," alerted the world to the plight of the monk seals (K. W. Kenyon. 1972. Man versus the monk seal. *Journal of Mammalogy* 53(4), 687-696.). He pronounced the Caribbean monk seal extinct in 1977, based

on extensive surveys (K. W. Kenyon. 1977. Caribbean monk seal extinct. *Journal of Mammalogy* 58(1), 97-98.).

Kenyon had three offers to move to Washington, DC but choose not to. He retired in 1973, a year after the Marine Mammal Protection Act was enacted, citing too much paper work needed "yesterday." Today he pursues conservation work and world travel. As an environmentalist, Kenyon is trying to stop the bombing of Sea Lion Rocks in Washington, a target he himself bombed during his "top gun" years. His photographs grace many books and his sea otter photos are particularly well known. His Red-legged Kittiwake photo is the sole photo in the bird skin collections at the Smithsonian Museum of Natural History. He is also an accomplished watercolorist and oil painter.

Kenyons' contributions have been acknowledged in various ways. Bogoslov Island features Kenyon's Dome, a prominence named by G. Vern Byrd (G. V. Byrd et al. Changes in bird and mammal populations on an active volcano in Alaska. *Murrelet* 6, 50-62.). A subspecies of northern sea otter (*Enhydra lutris kenyoni*) was named after him in 1991 by Don Wilson. Perhaps the greatest honor was bestowed by Doug Siegel-Causey. A species was named in honor of Karl because of a complete skeleton he collected in 1959 (D. Siegel-Causey. 1991. Systematics and biogeography of North Pacifc shags, with a description of a new species. *Univ. Kansas Mus. Nat. Hist. Occas. Pap. 140*, 1-17.). The skeleton was thought to be a Pelagic Cormorant, but morphometric measurements found it to be smaller than all other cormorants and, thus, a new species—Kenyon's Shag (*Stictocarbo kenyoni*), described in 1991.

The Inaugural Lifetime Achievement Award was presented to Karl at the banquet by his first boss, Vic Scheffer, whose long and productive career as a marine mammalogist includes pioneer work throughout the Aleutians in the Thirties and authoring the critically acclaimed *Year of the Whale* and *Year of the Seal*. Bill Everett and Mark Rauzon also provided background and commentary. Few have as rich and varied credentials as Kenyon, so it is fitting we inaugurate this award with him.

Mark Rauzon

PACIFIC SEABIRD GROUP GOES TO JAPAN: PART 2 (IZU ISLANDS)

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(This account of two PSG biologists' trip to Japan to help develop better PSG ties with Japanese biologists and to initiate joint efforts for the study and conservation of the very rare Japanese Murrelet is continued from PSG Bulletin 20(2):14-17.)

23 April 1993

The renewed rumbling of the ferry indicated that we were again underway after stopping at Oshima Island. Quiet rustlings of passengers getting up to disembark had woken me earlier. Now, it was 06:00 hours and it must be light outside. Time to see the famed Izu Islands, home of the Japanese Murrelet. I skulked past sleeping bodies and slipped up the stairway. But the cold coffee dispensers and rice crackers beckoned before I could make it onto the deck. The dome shape of Oshima Island lay behind us and Niijima Island lay ahead. These were large, forested islands with little apparent nesting habitat for seabirds, save for large cliffs along shore. I found Ueta conducting a bird survey from the upper deck. He had awakened earlier. Streaked Shearwaters were passing by constantly but that was it. By 08:00 hours, we were joined by Leah and Hasegawa who looked as tired as I felt. We passed by two smaller, rocky, unpopulated islands (Toshima and Udone) which looked more promising for nesting seabirds. Japanese Murrelets may nest there but had not been properly documented yet, we were told. They appeared to be somewhat accessible by boat although portions were very steep. As we approached Niijima Island, Ueta pointed out that murrelets had been found nesting at Cape Neuki (the northern tip of Niijima). This point looked very steep and difficult to access. We entered a small harbor on the east side and tied up to a long wharf to unload. Like Oshima, Niijima was a large island with a substantial human population. Several people, including surfers with boards, and pallets of materials were off loaded. Off the harbor, there were a few small islands which probably used to host nesting seabirds but no longer did due to human disturbance. I wondered how long ago these islands had been occupied. Japanese and Pelagic cormorants roosted on the pier and fed nearshore. We headed a short distance south off the east side of Niijima to Shikine Island where murrelets historically bred but could no longer be found in the early 1970's. Shikine had also been extensively developed, including a large and well-protected harbor. Murrelets would have nested on mainland bluffs here since there were no offshore rocks. A Black Kite soared over the harbor. After a short stop, we continued south towards Kozushima (or Kozu Island). Off the south end of Niijima, we saw Hanshima Island, a known murrelet nesting island. This island looked like a cake with very steep sides and a more level top which looked difficult to land on. In the distance ahead, we could see Kozushima, with Tadanae Island (the murrelet colony we planned to visit) off the west side and Onbase Reef off the east side. Gus van Vliet had sent me some old notes of Jack Moyer's (sent to Bob Storer along with collected specimens for the University of Michigan) where Moyer had found nesting murrelets on Onbase Reef in the 1950's. Ueta was not aware that murrelets ever nested there. Streaked Shearwaters still passed by constantly, flying to the southeast.

We landed at the harbor on the west side of Kozushima at 09:30 hours. We lugged our gear off the ferry and all hopped into a very, small truck driven by a spry older man who owned the Japanese inn (or "minshuku") where we would stay called Minshuku Mansaku-maru, after the name of the fishing boat they also operated. Kozu is well known for recreational fishing. Many fishermen from all walks of life come here

to fish. They are dropped off from fishing boats onto remote peninsulae or offshore rocks where they fish with rod and reel all day. They are then picked up and returned to the minshuku for overnight. A pretty nice package deal! We wound our way up the almost empty, narrow streets until we were above the town. We were welcomed warmly by the owner's wife at the door. Hasegawa had been coming here for years and they were old friends. We took our gear upstairs to the two small rooms we would share, covered in straw mats with mattresses in the closet to be pulled out for sleeping. I opened the window to an incredible view of Onbase Reef through a maze of cherry blossoms. Shortly, we were ushered downstairs to breakfast. In the common eating room, there was a long table already set with wonderful array of food: saba (mackerel) fish, miso soup with limpets, pickled cabbage salad, rice with raw egg and soy sauce, carrots, dried mushrooms, deep-fried tofu and tea. We were served by the owner's wife who we were instructed to refer to as "obasan" (or aunt). The owner or "ojisan" (uncle) mended his twine nets in the next room. These were used for catching flying fish.

Full and refreshed, we set out spend the rest of the day exploring Kozu Island. By now, it was very windy and we would try to travel to Tadanae in the morning. Hasegawa left to conduct snake work while the three of us were driven to the base of the highest hill on the island. We started up an incredibly steep path through light brush. Soon, we were into a recently burnt-over area as we found ourselves climbing into the fog which obliterated our amazing view of the island, town and Onbase Reef. We pushed on to the top even though the strong wind and fog prevented birdwatching. We hiked to Sendai Pond and then decided to walk down to the east side of the island. Partway down, we entered forest but few birds were seen. Overall for the day, we saw Varied Tit, Brown-eared Bulbul, Siberian Meadow Bunting, Ijima's Willow Warbler (heard only), Jungle Crow and White-rumped Swift. We ended up at the harbor on the east side and had a closer look at Tadanae. On our way back to the main town, we passed by some ancient ruins hidden in the deep forest. Mr. Ueta translated some inscriptions which told something of how a samarai lost a captive bull. Suddenly, I realized that the path we walked on had been used for many, many centuries.

On our return, we went to a store to shop for food to take with us for camping on Tadanae. Both Japanese and California oranges were bought (for comparison), ramen noodles, sauce for rice and fish wieners. Passed by some caged birds (Great Tits and Bush Warblers) as we walked through the streets. For dinner at the minshuku, we had cold marinated white fish, clear soup with fish pieces, sashimi ("katsuo") and various side dishes (or "okazu"). (Excuse my fascination with Japanese food but I enjoyed it so much that it made a great impression on me). We relaxed for a short while before being rounded up and taken down through town and out to the Japanese bath and hotsprings or "onsen". The men and women separated. We first washed up, followed by soaking in three different pools and trying several different shower-spray devices. By the end of this, I was red jello. I went back to get dressed but was motioned to come outside to more cement pools beside the ocean and under the stars. There, Leah languished under a small waterfall. We were both feeling like the world could not be better. I couldn't resist a quick swim in the ocean, in true nordic tradition. Ueta joined me. Afterwards, Hasegawa called to us to join him in the small pool, built on top of a the large rock. We were all unable to move, like macaques. A Streaked Shearwater cruised by in the lights.

24 April 1993

We woke up briefly to find out that it appeared too windy to go to Tadanae. After more sleep, Leah and I talked and talked about Japanese Murrelets, PSG and our Japanese colleagues. We had breakfast after Ueta and Hasegawa returned from their dawn work on Kozu. Hasegawa had brought examples of snakes for us to see including the species that preys on murrelet eggs. These ones were about two feet long and much smaller than the ones on Tadanae. At breakfast, we found out that the wind had subsided enough for us to take a boat trip around Tadanae to count birds on the water and possibly attempt to go ashore. We looked at maps and discussed the work to accomplish there: 1) to find and measure snakes; and 2) to find as many Japanese Murrelet nests as possible since only one nest had been found in 1992. We scrambled to get our gear together and were whisked over to the harbor on the east side of Kozu by 09:30 hours. We stepped onto a fishing boat along with ojisan and his son. Most boats in the harbor had the same interesting design with an extended catwalk off the bow. Boats were nestled in close together, tied up with the bow pointing into the pier. People loaded and unloaded from the catwalk. We zoomed out of the harbor at 20 knots, immediately into the swells. First, we went along the mainland shore opposite Tadanae. Large numbers were painted on the rocks to denote fishing locations. At one small rock, eight men were there already and we dropped off one more. Then, we headed to Tadanae which actually consists of two main rocks. The larger rock is nearest shore, very steep-sided, contains a large arch and looks very difficult to climb, yet it had large painted numbers at several spots along shore. It was quite rocky but also covered with low green vegetation. The outer island also was steep-sided but there were decent landing spots. The seas had dropped by the time we had arrived and it was possible for us to land for about two hours! The long catwalk proved to be an excellent platform to hop off of onto the rocks above the slippery intertidal zone. The skipper's skill was great and we merely had to step off, although the end of the catwalk was covered in tires (for more difficult landings). We set up our headlamps to search for nests but only one of ours worked. Climbing up the rocks, we entered the tall grass tussocks that covered most of the island and found ourselves atop a solid maze of burrows. Tadanae is primarily a colony of Streaked Shearwaters and Sooty Storm-petrels which nest over most of the island. Ueta led us to the south side of the rock where he had found only one nest in 1992. As we climbed, I could see Miyakejima Island in the distance to the south of us. And Sanbondake Reef was also visible some distance to the east of Miyake. Japanese Murrelets nesting at Sanbondake had been the subject of a paper by Jack Moyer in the Auk in the 1950's, the first literature I ever read about Japanese Murrelets in the mid 1970's. He indicated that these were rare and little-known seabirds that were being impacted by U. S. military bombing practices. I remember reading this article back then and hoping that this species would not go extinct. While Moyer had been successful in his efforts to

Dr. Masami Hasegawa measures a large garter snake on Tadanae Island, Japan, 24 April 1993.

protect Sanbondake, few biologists have returned to determine how well the population is doing and whether it has recovered from decimation.

We reached the rock outcropping after a difficult hike across the waist- to chest-high tussocks. Last year's nest had been located in a deep rock crevice at the base of the outcropping. Today, it was not occupied. In a nearby crevice, we found only an abandoned Sooty Storm-petrel egg. We proceeded to search for other nests around the outcropping. Leah showed me a site where the grey back of a bird, possibly a storm-petrel, could be seen. She reached in to the full depth of her arm and felt not one but two eggs! Japanese Murrelet!! Silent scream. She pulled out one egg to confirm her discovery. Roger. The egg was similar to an Ancient or Xantus' murrelet which I had examined before. It had a light brown base color with small darker speckles all over. Leah gently put the egg back. The incubating adult had moved back further in to the crevice but this time we could see part of the wide white head stripe on closer inspection. Words were hard to find. High fives, then Ueta followed with a bash. Baseball, the international language.

Hasegawa was nearby now with a bag o' snakes. I joined him while Ueta and Leah continued to search for Japanese Murrelet nests. These snakes were the larger variety, 4-6 feet long. Hasegawa mentioned that they are able to reach these sizes because their entire diet is made up of seabird eggs and chicks as well as skinks. These foods were available on Tadanae all year long. However, at this time of the year, the storm-petrel chicks were too large for the snakes to eat, and the Streaked Shearwaters hadn't started to breed yet. Thus, the snakes were feeding only on skinks and murrelet chicks and eggs. He showed me three murrelet chicks that had been force-regurgitated from a single snake. Then, he palpated the body of another snake (by depressing and running his thumb along its abdomen) until it regurgitated the almost complete but crushed remains of two murrelet eggshells. The extent of snake predation may be great since almost every snake examined had eggshell fragments in their regurgitations or feces. We were still busy measuring snakes when Leah softly shrieked that she had found another nest! This time the adult was clearly visible with its incredible black crest feathers flopped over the head stripes and light-colored bill. Swoon. Both this site and the last one were located in crevices at the base of rock outcroppings where it emerged from the grass tussocks. Nests were located about 40-70 cm back from and at a higher level than small (<10 cm diameter) entrance, perhaps for drainage purposes. In each case, the crevice continued farther inward. Our time was running out but Leah, having developed a successful search image, sallied forth to find our third nest. However, this time the nest was located halfway up a rock outcropping in a crevice that was more like a "pocket" in the rock. The bird sat motionless and was very exposed about 20 cm from the entrance. By this time, we had discovered a small shrine at the top of the rock outcropping. Ueta said that it had been placed there by fishermen to bless their catch. Somehow, I felt that it had blessed the Japanese Murrelet and other seabirds that shared this beautiful rock on the far western edge of the Pacific Ocean. We had to go and hiked back over the hill to the landing spot, still euphoric over our success. Up to five Black Kites and two Jungle Crows had watched us at these nests. We hoped that our activities had not led to their later feasting on murrelets. Our success would not be worth such a cost.

The ride in was even faster than the ride out. We didn't see one murrelet on the water from the boat or island. By 13:30 hours, we were heading back over the hill to the minshuku. For the rest of the afternoon, we were driven around to different parts of Kozu Island by another of ojisan's sons. He was a local official in the Kozu government. The Izu Islands are actually part of the City of Tokyo but, due to their isolation, they are largely governed by individual island governments. We visited their offices, were welcomed officially to Kozu and received some pamphlets. We then drove along the road as far as it went, turned around and ended up at the Onsen. Again. We focused on the outside pools this time and had a wonderful discussion about cooperative research between Japanese and North American PSG seabird biologists. Snake research needed to be included along with murrelet work. We both emphasized the need for a long-term effort towards the research and conservation of the Japanese Murrelet. Dinner consisted of prawns, fish, relishes, marlin, vegetables, etc. Another incredible culinary delight. This time, sake (Fukuimusume) appeared as a gift from our hosts. This sake has gold flecks in it and is served at room temperature. Kirin beer followed. After dinner, we reclined upstairs and philosophized about our different countries and cultures. Hasegawa was very eloquent about the lack of differences between peoples and sexes, reflecting the modern Japanese view. His views of conservation were shared by us all. And so we talked and laughed and drank until late into the night. So much happened today...

25 April 1993

Up at 04:45 hours but Ueta had left without us to conduct passerine surveys. We knew we wouldn't we travelling to Tadanae today because the wind had rattled our windows all night long. Breakfast was at 07:30 hours when Ueta returned. Today was a day off. Leah and I spent the morning talking and planning about Japanese Murrelet research plans for the future. We walked into town for lunch and to look around. The waves and wind were blowing directly onshore from the west. Big swells separated us from Onbase Reef. The waves

were rolling into harbor and slopping over the breakwaters. Boats were being shaken up and nervous fishermen roamed the piers. We wandered through the shops and discovered that, later in the year, Kozu is also a mecca for sunbathers and surfers. The beginning of the summer season begins with Golden Week (the largest annual holiday in Japan) which started only a week or so from now. So, the empty streets were a temporary facade. We were fortunate to be seeing these wonderful islands before they became inundated with people. On our return to the minshuku, we found that the regular house bath was set up for us. This bath consisted of a very deep and large tub filled to the brim with hot water. It felt too good. Dinner was excellent: sliced spicy beef, fish, relish, rice, soup, etc. We were joined by Ojisan, his two sons, and two local fishermen. Ojisan was surprised to hear that I liked Nato at breakfast (gooey, fermented beans). Obasan was happy that we enjoyed her food so much. The fishermen told us that Japanese Murrelets can be seen diving at night from the lights of the squid fishing boats near the islands. We asked if any were ever caught in squid nets. They said some were caught in flying fish nets. "How many?" we asked. "Not enough to worry about" they answered. Somehow I doubted this statement. We discussed tomorrow's plans. Hasegawa had to return to Tokyo on the ferry at 1030 hours. Since it looked unlikely that we would be able to land, the three of us would at least try to take a boat trip around Tadanae and Onbase Reef to count any murrelets on the water and to examine habitats at Onbase Reef. We'd have our gear ready to leave at 05:30 hours.

26 April 1993

The wind was down but the swells were up. We waited all morning until conditions improved and went directly to Tadanae. Obasan was not very comfortable about our going to the island under these weather conditions. Once it was clear that we were on our way, she produced a small doll and handed it to Leah. The local tradition was that it was good luck for women to travel in pairs on boats. The goddess of the ocean, being female, would be jealous of a single woman on board. Now fully equipped, we headed out in confidence. This time, we landed more precariously on the southeast side near the camp site so we wouldn't have to carry our gear across the island. The tent was set up, equipment stored and lunch consisted of ramen noodles on a butane stove. First, we searched the main rock outcropping area that we had investigated earlier. All three nests were still attended, much to our relief. Could it be that murrelets only nest in rock crevices? We decided to check other rock outcroppings. I found our fourth nest high up on the exposed southwestern point. Only now could I admit my frustration of not having found a nest in our earlier trip. This nest was located on the leeward side of the rocky peak in a small rock crevice that seemed almost too small to house a nest. The entrance was about 6-7 cm wide and narrowed to about 4-5 cm, a short distance back where the bird sat incubating two eggs. There were many other crevices on the point but no birds were found. Certain sites under large boulders were too deep to be checked. Steep cliffs on the southeast side were not checked. We hiked over to the northeast part of the island to search other rock outcroppings. On the way over the grass tussocks, we discovered a snake which force-regurgitated two murrelet eggs. All we found at these outcroppings were some gull pellets that contained storm-petrel and possible murrelet remains. Perhaps there are only a few nests on Tadanae, we thought. Ueta started searching in a ridge area covered in grass but riddled with rocks and burrows. He found our fifth nest in a crevice formed by several rocks with a tunnel covered partly with grass. The nest chamber, with an adult incubating two eggs, was located under a larger rock. With this knowledge, he then found the sixth nest nearby in a soil burrow within a rocky area. He felt one egg and a bird moved farther inward. These discoveries convinced us that murrelets could be nesting anywhere on the island, including burrows throughout the grass tussock area. It would require a great deal of effort to find all nests on Tadanae.

Satisfied with our nest-finding success, we decided to inspect possible nesting habitats on other parts of the island. We climbed over to the northwest part of the island where we encountered some brush which did not appear to be used for burrowing. Our daylight was running out so we went to the cliff tops opposite the other island to have a closer look at Japanese Cormorants nesting on the cliffs that we had seen at a distance from the boat. At least three nests were visible although only one appeared to be incubated by an adult and two others were attended but empty. At camp, we were still cooking ramen when we saw our first Streaked Shearwater arrive at 18:42 hours. By 19:15 hours, storm-petrels and shearwaters were abundant and vocal. The first Japanese Murrelet was heard at 19:35 hours. We decided to split up to obtain some idea of the numbers of murrelets vocalizing from 22:00-22:30 hours at different areas on Tadanae at night. Leah remained at the camp area where she estimated about 50+ birds using the bowl behind the tent. Heavy activity occurred from about 20:45-21:15 hours. I went to the main rock outcropping where the first three nests had been found and estimated about 20 birds detected in this area. Seven birds landed nearby but stayed on open rocks. None were heard landing by known nest sites. One was captured by hand and did not have a brood patch. I had high vocal activity early on but then it tapered off. It was difficult to move about at night amidst the tussocks without crushing burrows and stepping on the hoards of adult and fledgling Sooty Storm-petrels that fluttered like large grounded butterflies in front of my feet. These storm-petrels were about as

Leah de Forest near the entrance to a Japanese Murrelet nest on Tadanae Island, Japan, 26 April 1993.

large but not as dark as Black Storm-petrels I'd handled in southern California. In a large crevice, I found a Streaked Shearwater with a flashlight. What selective value could those exquisite markings have? Meanwhile, Ueta had gone over to the northwest part of the island where he had found nests earlier in the day. He heard about 50 birds and had seen 24 birds on the ground spread over the small valley above the original landing spot. After 22:19 hours, he noticed that birds were no longer calling on the colony and were calling only from the water. We were all amazed to have so much activity. Clearly, there were more murrelets using the island than we had imagined. We rendezvoused at the camp and attempted to catch a bird for photographs. Activity picked up and we heard several birds landing on the slopes of the bowl. We caught 2 birds (without brood patches) and took a few pictures before releasing them.

Trying to sleep that night was impossible. This experience had been so exciting. What an incredible opportunity and a special moment in our lives. Other than Moyer, we were perhaps the only North Americans that had ever seen the nests of and live-handled these rare Japanese treasures. For that matter, not many Japanese have had this chance. Isn't it curious that we tend to better appreciate these mysterious creatures when they become rare and when we can personally experience them? Isn't this one of PSG's missions: to inform the world about these fragile and fantastic wonders of the Pacific so that they will be protected without every human on earth feeling as much for them or being as close to them as we were at this moment?

Mr. Mutsuyuki Ueta points to a Japanese Murrelet nest on Tadanae Island, 26 April 1993

27 April 1993

Up at 06:30 hours. We packed our gear while breakfast (rice soup) was cooking and had everything down by the water at 08:30 hours. Pick up was scheduled for about 10:00-11:00 hours. We hiked back over to where Ueta had seen birds on the slopes to search for more nests. No luck. Perhaps these birds were largely non-breeding? Waiting at the landing, we saw a juvenile Peregrine Falcon pass overhead. About five Black Kites and 10-15 Jungle Crows hovered and flew near the top of the island. The boat arrived as planned and we travelled around the north side of the Tadanae towards Kozu. We photographed both of the rocks at Tadanae and mainland cliffs at Kozu as we passed by. After throwing a few fish overboard to attract some Black-tailed Gulls, we stopped suddenly. Ojisan poured some sake into the water and threw out more fish parts in a special offering to the sea. The wind was increasing now and our trip to Onbase Reef was canceled. We crawled inside and sloshed our way back to the harbor.

After a welcomed tea at the minshuku, we walked into town for lunch, errands and phone calls. We didn't have to ask about the onsen. They just took us there and picked up our completely relaxed bodies a few hours later. We flopped down for a nap before another wonderful meal of sashimi, hamburger, relishes, soups, rice, etc. We relaxed afterwards with sake and beer. We presented Obasan with a PSG totebag which she immediately countered with a towel inscribed with the boat's name. We also examined the fish-shaped kite that her grandson had made for a special upcoming event. Tomorrow we would return to Tokyo. There was only one last chance for a trip to Onbase Reef in the morning.

28 April 1993

Up at 06:00 hours. The wind was down. Grabbed our binoculars and camera and rushed to the boat. It took about 20 minutes from the east harbor to Onbase Reef. The wind was about 5-10 knots with a moderate swell. When we arrived, they told us that it was the wrong tide for landing, even though there were fishermen on the rocks on the far side of the reef. So we cruised around the reef to examine habitats and to count any murrelets on the water. Onbase Reef was composed of two island groups. The southwest group was smaller and had two steep peaks covered in nesting Black-tailed Gulls. The northeast group was larger and had three small scree fields at the bases of small bowls on the northwest side. These scree fields contained some larger boulders. These locations were described in Moyer's detailed notes to Storer in the 1950's as habitats where he found 30-40 Japanese Murrelets nests. We drove around the islands and headed back in.

Our going-away breakfast consisted of salted fish (almost like kippers), rice with raw egg and soy sauce, pickled cabbage and seaweed soup. All packed up, we said our goodbyes to Obasan who seemed like our aunt at this point. We drove to the ferry and headed off back to Tokyo. This time, we departed from the east harbor which took us right past Tadanae for a last look. About 3 km past Tadanae, I spotted our first murrelets on the water. We counted flocks of one, ten, three and one birds, totalling 15 murrelets from the east side of the ferry. They were all located in the same general area. Moyer had described these "feeding

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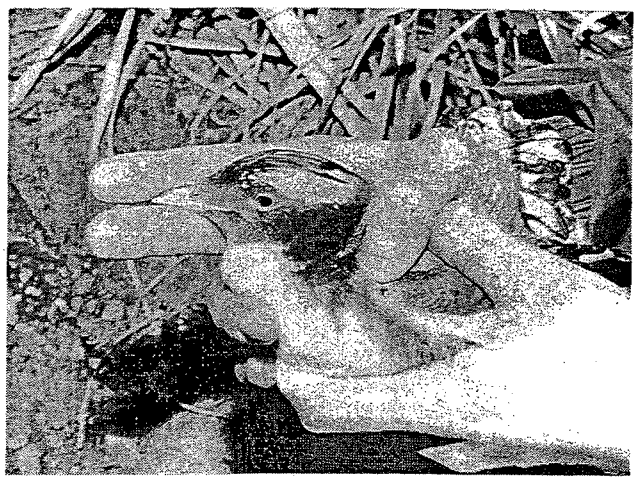


Japanese Murrelet captured by hand at night on Tadane Island, 26 April 1993

Conservation News

Craig Harrison, Conservation Editor

The Federal Endangered Species Act and Seabirds

The Endangered Species Act (16 U.S.C. §§ 1531-44) can be a powerful weapon to protect species that the federal government has designated as endangered or threatened. The ESA employs a number of techniques to preserve endangered and threatened species, including land purchase by the government, the implementation of conservation programs by federal agencies, and the prohibition of various government and private actions that harm listed species.

The current list of endangered and threatened species, which is revised annually to account for changes announced in the Federal Register during the preceding year, is to be found in the Code of Federal Regulations, 50 C.F.R. §17.11. It contains fourteen seabirds (Table 1). The U.S. Fish & Wildlife Service can amend the federal list through notice-and-comment rulemaking. A proposed rule to list, de-list or down-list a species must be published in the Federal Register. After considering public comments, FWS publishes its final determination in the Federal Register. FWS also publishes lists of candidate species that it may propose to list as endangered or threatened (Table 2).

Table 2. Candidate Endangered and Threatened Seabirds[1]

Species	Category
Harcourt's Storm-Petrel	2
Harlequin Duck	2
Xantus' Murrelet	2
Elegant Tern	2

[1]56 Federal Register 58804-12 (November 21, 1991)

The ESA requires all federal agencies, not just those such as FWS whose mandate is conservation, to carry out programs to conserve listed species. Loss of breeding habitat is the root cause of the endangered status of most island-dwelling creatures, and many activities that cause such losses are directly undertaken or indirectly authorized by federal agencies. Such activities fall within the ambit of the statute. The ESA also provides for the designation of critical habitat (areas deemed to be essential to the conservation of a species), and FWS' proposal in January 1994 to designate critical habitat for marbled murrelets will be the first designation for any seabird.

A species is considered endangered if it is in danger of extinction throughout all or a significant portion of its range. A species is considered threatened if it is likely to become endangered within the foreseeable future. The goal of the ESA is to allow each species to recover to the point that it does not need special protection and can be removed from the list. Recovery plans are intended to describe specific management actions that may be necessary to allow the species to recover. FWS has issued some recovery plans for seabirds, but the Pacific Seabird Group has rarely if ever had an opportunity to comment on a draft plan. A recent review of over 300 recovery plans (Tear et al., *Science* 262:976-77, 1993) criticizes the biological goals in many recovery plans as being insufficient to insure survival.

The statute forbids "taking" endangered species, which is broadly defined to encompass harassment, harm, pursuit, capture, collection, shooting, and killing. Just as important, the regulations define "harm" to include significant modification or degradation of habitat. As the State of Hawaii has twice learned to its chagrin in *Palila v. Hawaii Department of Land and Natural Resources*, the 9th Circuit Court of Appeals (western states) may enjoin state actions that degrade the feeding, roosting, or nesting habitat of an endangered species. The prohibition against significant modification of the habitats of endangered species has been called into question by a March 1994 D.C. Circuit decision in a suit brought by timber interests, *Sweet Home Chapter of Communities for a Great Oregon v. Interior Department*. The D.C. Circuit Court of Appeals ruled that FWS' "harm" regulation is limited to "the direct application of force" against an animal and that, for example, FWS cannot prohibit logging near marbled murrelet nest sites as a "taking" merely because habitat has been modified. The extreme differences between the two circuit courts might persuade the U.S. Supreme Court to review and decide the *Sweet Home* case.

The ESA does allow an endangered or threatened species to be taken pursuant to a permit if the taking is incidental to the carrying out of an otherwise lawful activity such as forestry, clearing land or fishing. However, no incidental take permit may be issued without the submission of a conservation plan, which must include means to mitigate the harm caused by the taking of an endangered species.

Table 1. Endangered (E) and Threatened (T) Seabirds[1]

Species	Status	Range
Short-tailed Albatross	E	Entire, except USA
Abbott's Booby	E	Entire
Bermuda Petrel (Cahow)	E	Entire
Andrew's Frigatebird	E	Entire
Audouin's Gull	E	Entire
Relict Gull	E	Entire
Marbled Murrelet	T	CA, OR, WA
Brown Pelican	E	Pacific coast
Galapagos Penguin	E	Entire
Dark-rumped Petrel	E	Hawaii
Newell's Shearwater	T	Entire
California Least Tern	E	Entire
Least Tern	E	USA
Roseate Tern	E	Atlantic coast of North America
	T	Remainder of range

[1]C.F.R. § 17.11 (1993)

The ESA is up for reauthorization in the current Congress and has become increasingly controversial. One proposal would require blind peer scientific review of the listing process and direct FWS to give greater priority to conserving distinct species. It would also, according to its sponsors, "create a mandatory and viable recovery process not present in the current act." The Endangered Species Coalition counters that this approach would deny protection until the species is on the very verge of extinction. Some organizations are mailing reams of paper to solicit funds to strengthen the Act. One brochure depicts a bald eagle, red wolf, Florida panther, peregrine falcon, piping plover, and Guadaloupe fur seal in its request for money. The brochure fails to mention that each of those creatures is already listed, biologists and managers are actively working on their recovery, and there is no genuine threat that they will lose the protection of the ESA.

A goal of some organizations is to amend the ESA to list immediately hundreds of invertebrate species. This would accelerate FWS' recent trend to list creatures such as the prairie mole cricket in Oklahoma, the blind cave isopod in Virginia, Hungerford's crawling water beetle in Michigan, and the Delhi sands flower-loving fly in southern California (a subspecies). Those who lobby Congress to bring hundreds if not thousands of invertebrates under the protection of the ESA should depict those creatures on their fund raising appeals and defend their views openly. If the federal government embarks on a massive listing of invertebrates, the ESA will become much more difficult to enforce. Focusing on invertebrates will drain human and financial resources away from what is available for the conservation and management of birds and mammals. Providing insects the same protection as grizzly bears, short-tailed albatrosses, and marbled murrelets fuels the growth of the "wise use" movement because it undermines public confidence in government's ability to set conservation priorities.

Some conservationists espouse egalitarian views and deride setting priorities based on "charismatic megafauna." Virtually no one, however, behaves as if all species are equal. Individuals draw their own lines, but in the continuum of life forms from mammals, birds, and fish through plants, insects, flatworms, fungi, amoebas, bacteria, viruses, and polypeptides virtually everyone establishes preferences when the time comes to write a check or volunteer for a weekend of work. Recovering the hundreds of birds and mammals already listed will require enormous public and private funds and the focused efforts of biologists and managers for decades to come. Because the global number of species of insects (1-2 million) greatly exceeds the global number of species of mammals (4,000) and birds (9,000), changing the focus of the ESA to include invertebrates has tremendous implications that must be carefully considered and honestly debated.

SEABIRD CONSERVATION 1994

The Pacific Seabird Group worked on the following seabird conservation issues during the past year. Members who have information about issues that may benefit from PSG involvement or who wish to review documents and to assist the Conservation Committee in drafting PSG letters should contact me.

I.Exxon ValdezOil Spill (EVOS) Restoration

During the past two years, PSG has sent at least ten letters commenting on restoration plans and annual work plans that the EVOS trustee council prepared. The long-delayed draft EVOS restoration plan, which will establish long-term goals and priorities for the billion dollar trust fund, will not be available until late June. A final restoration plan is scheduled to be released during October 1994. Jim King, one of PSG's founders, continues to serve as the conservation member of the EVOS Public Advisory Committee.

The trustee council recently adopted a PSG proposal and funded the removal of foxes from Chernabura and Simeonof islands to restore those seabird colonies. PSG has given the trustee council a list of islands from which rats and foxes should be removed and a list of seabird colonies that should be purchased. We are working with Old Harbor Native Corporation to persuade the trustee council to purchase the corporation's seabird islands near Sitkalidak Strait, Kodiak.

PSG has been concerned that the trustee council has not always used the very best science in making restoration decisions. To improve this situation, we suggested recently that the trustee council consult with PSG to obtain lists of potential peer reviewers of restoration proposals and reports. We are happy to report that the chief scientist has begun to do so.

The 1994 annual work plan seems to limit seabird restoration to common murres, black oystercatchers, harlequin ducks, marbled murrelets and pigeon guillemots. The trustee council is ignoring the damage done to other seabirds such as cormorants, tufted puffins, black-legged kittiwakes and ancient murrelets. Moreover, the trustee council continues to define the oil spill area very narrowly, ignoring the migratory nature of seabirds. PSG has written the trustee council that common murres are probably linked genetically linked throughout their range in the Gulf of Alaska and the Aleutian Islands. We have also noted that banding studies of alcids show that substantial numbers of young birds prospect for breeding sites long distances from their natal colony. Colonies that are beyond the trustee council's definition of the oil spill area include birds that can recolonize damaged colonies. For this reason, PSG will continue to challenge the trustee council's highly questionable assumption that seabirds outside a narrowly defined spill area were not damaged.

II. Threatened and Endangered Seabirds

A. Harlequin Duck

In 1993, PSG sent copies of a report entitled "The Status of Harlequin Ducks in North America" to FWS and the Canadian Wildlife Service, and asked those agencies to investigate the status of the harlequin duck. We understand that there may be grounds to file a petition to declare the eastern population of the harlequin duck as endangered or threatened.

B. Marbled Murrelet

In January 1994, FWS proposed critical habitat for the threatened marbled murrelet in the Pacific Northwest. The Marbled Murrelet Technical Committee filed comments on this proposal in April.

C. Xantus' Murrelet

At PSG's annual meeting in Sacramento, the Executive Council directed the Xantus' Murrelet Technical Committee to prepare the necessary documentation to file a petition to declare the Xantus' murrelet endangered or threatened. PSG has informed FWS and the California Department of Fish & Game that a petition may be filed later this year, and has scheduled a meeting with

biologists and agency staff to exchange information on the status of this species.

D. Harcourt's Storm-Petrel (*Oceanodroma castro*)

FWS still has not decided whether to declare the Hawaii population of Harcourt's Storm-Petrel endangered, although a petition was filed five years ago. FWS has conducted surveys of this species in Hawaii, and found a few additional areas where birds can be found. In 1990, the population was estimated to be one hundred pairs (Harrison, Telfer and Sincock, 'Elepaio 50:47-51), but may be larger.

E. Dovekie

In March 1993, an individual petitioned FWS to list the Alaska breeding population of the dovekie as endangered. Because the population of dovekies in the North Atlantic is in the tens of millions, FWS denied the petition (58 Federal Register 37699-701, July 13, 1993).

III. Mexican Seabird Conservation

The interest in seabird conservation in Mexico has increased greatly, in part due to the North American Free Trade Agreement (NAFTA). PSG will sponsor a symposium and workshop on the restoration of island biodiversity in Baja California and the Sea of Cortez at San Diego in January 1995. At that meeting, PSG will form a Committee to address research and conservation issues in Baja California. In February 1994, we applied to FWS for a grant to support travel expenses and accommodations for Mexican biologists, students and wildlife agency officials to attend PSG's symposium and workshop.

PSG has recently asked FWS to establish a program to identify all seabird colonies in western Mexico whose populations are limited by alien predators and to remove those predators by the year 2000. We also wrote the Federal Neotropical Migratory Bird Conservation Committee last summer to volunteer PSG assistance regarding seabirds. We learned that federal funds are available from the U.S.-Mexico Joint Committee for Wildlife Conservation and urged several PSG members to apply. We congratulate Bernie Tershy for receiving a grant to restore seabird colonies on Ascunsión and San Roque islands.

We continue to work with the International Council for Bird Preservation (ICBP) to secure funds to remove alien predators from Isla Clarión and North Coronado Island. ICBP asked the House Appropriations Committee again this year to appropriate funds for this work during the coming fiscal year, which would allow Xantus' murrelets, Townsend's shearwaters and ashy storm-petrels to resume normal breeding.

IV. Alien Predators on Seabird Colonies

PSG continues its efforts to persuade FWS to remove predators from seabird colonies throughout the Pacific. In early 1993, we wrote Department of the Interior Secretary Babbitt and asked for his support to remove alien predators from Alaskan seabird islands. As reported in the fall 1993 edition of the PSG *Bulletin*, the Secretary's response was evasive. We recently wrote FWS' Alaska Regional Director and asked the Service to develop a comprehensive plan to remove predators from Alaskan seabird islands. We believe that if FWS had such a plan, the EVOS trustee council might fund its implementation. The regional director's response, however, was lukewarm. PSG may ask the trustee council for funds that would enable PSG to develop a comprehensive plan, which we would provide to FWS and to the trustee council.

PSG reviewed the Alaska Maritime National Wildlife Refuge's environmental assessment entitled "Proposed Emergency Use of Brodifacoum and Bromethalin to Prevent Accidental Introductions of Rats from Shipwrecks on Islands in the Alaska Maritime National Wildlife Refuge." We agreed with FWS that any effects of localized use of those chemicals on non-target species would be very minor compared to the risks that rats might colonize a new island.

V. Amendments to Migratory Bird Treaty Act

PSG has worked with the National Audubon Society in advising a congressional committee on a draft Migratory Bird Conservation Act of 1994. This legislation would fully implement the USA-Japan and USA-Russia migratory bird treaties. It may direct FWS to remove predators from refuge islands and to develop non-game management plans for migratory birds, including seabirds. The bill also may ask FWS and the National Marine Fisheries Service to report to Congress concerning the take of seabirds in commercial fisheries in the U.S. Exclusive Economic Zone (EEZ). The U.S. Department of the Interior may withdraw a solicitor's opinion issued during the Carter administration and declare that Interior will enforce the Migratory Bird Treaty Act throughout the 200-mile EEZ, not just the 12-mile territorial sea. PSG has written Secretary Babbitt and urged him to withdraw the solicitor's opinion and to declare a new Interior policy regarding the act.

VI. Seabird Conservation in the Philippines

PSG gave the Dansk Ornitologisk Forening (Danish Ornithological Society) a $1,000 grant in partial support of a project to conserve tropical seabirds in the Sulu Sea. The project is a joint venture among many organizations to attempt to save the last seabird colonies in the Philippines, a nation of some 10,000 islands. Besides PSG, British Petroleum Company, the U.S. Section of the International Council for Bird Preservation, and the Hawaii Audubon Society are supporting part of the project's $26,000 in costs. The project will begin in June 1994.

The work is taking place in the Tubbataha Marine Park, Sulu Sea. Among the project's many objectives is the training of 15-20 Filipinos in seabird biology and conservation, including employees of universities, foundations, the Department of Environment and Natural Resources and the Philippine Coast Guard. Besides fostering PSG's conservation goals, this project is an opportunity to become known to professional ornithologists in the Philippines. Some project biologists may join PSG and some PSG members may have an opportunity to work on seabirds in the Philippines.

VII. Marine Sanctuary Program

We continue to monitor the National Marine Sanctuary program. A site evaluation list for future marine sanctuaries is long overdue. PSG again wrote NOAA in early 1994 to support a multi-site and multi-resource sanctuary in Hawaii that would provide comprehensive protection for a marine ecosystem, including seabirds. Specifically, PSG supports expanding the proposed Hawaiian Islands National Marine Sanctuary to protect seabirds offshore North Kauai and the Northwestern Hawaiian Islands. NOAA and the State of Hawaii may propose a single-species hump-backed whale sanctuary that would provide little additional protection for whales, which the Marine Mammal Protection Act and the Endangered Species Act already protect. PSG also asked FWS to complete its study on the benefits of a marine sanctuary offshore the Hawaiian Islands National Wild-

life Refuge. The 1984 master plan for this refuge required such an evaluation, but FWS has never begun one.

VIII. Restoration Plan for *Nestucca* Oil Spill, Washington

With the assistance of George Divoky, PSG reviewed and commented on FWS' draft Restoration Plan for the *Nestucca* oil spill in the State of Washington. We said that the plan is a reasonable expenditure of a modest sum ($50,000/year for ten years) of restoration funds. It includes (1) improving habitat for seabirds on Destruction Island by removing rabbits; (2) educating boaters regarding disturbance to seabird colonies; (3) delineating seabird mortality from net fisheries; and (4) monitoring Common Murre attendance at Washington colonies.

IX. Management of the National Wildlife Refuge System

PSG commented on the draft environmental impact statement for the management of the National Wildlife Refuge System. This plan that affects some of the most important seabird colonies in the USA is being revised for the first time in almost 20 years. PSG stated the plan: (1) placed too much emphasis on master plans (which are easily ignored) and not enough emphasis on refuge-specific regulations (which have the effect of law); (2) over-emphasized building visitor centers; and (3) should allow more public involvement in ranking new refuge land purchases.

SEABIRD CONSERVATION IN MEXICO

During the last few years there has been an increasing interest in the seabird resources of Baja California and the Gulf of California. This is not surprising, considering that the area is vast and harbors many interesting and unusual species. Some of these are abundant and some are relatively rare, but few have received the intense study similar to that directed towards other Pacific coast seabird meccas such as Alaska or the Farallon Islands. Indeed, Baja California is the only region on the west coast of North America for which there has been no concerted effort to inventory seabird colonies and populations.

At the same time, concern is growing regarding the conservation of Baja California seabirds. Many if not most of Baja's seabird breeding islands have had introductions of non-native animals such as cats, goats, pigs, and dogs. Rats have likely also established footholds at many of these islands. The often devastating results of such introductions are well-known and need not be recounted here.

Fortunately, there has also been a dramatic increase in Mexican seabird biologists in Baja California in the last decade. Energetic and concerned indigenous researchers are currently working out of universities and other institutions throughout the region, including Ensenada, La Paz, Guaymas, and even Mexico City. One of the goals of the 1995 PSG meeting in San Diego will be to draw as many Mexican researchers as possible to a workshop/symposium on seabird population restoration and protection, in hopes that state of the art technologies can be transferred and applied to islands of Baja California that are much in need of such attention.

During the last year PSG has been considering additional ways to assist the Mexicans in research and conservation activities. Funding has always been difficult to obtain, either within Mexico or within the U.S to do work in Mexico. The impending implementation of the North American Free Trade Agreement (NAFTA) may provide a means to solve this problem. A joint international effort could be the best way to tap this source. At the 1994 PSG meeting in Sacramento an exploratory Baja California Seabird Committee meeting was held to examine the possibilities and perhaps establish a foundation upon which a cooperative program could be built.

One of the goals that was discussed was producing a master plan for the conservation of Baja California seabirds. This international effort, under the auspices of PSG, would seek funds to undertake several tasks. First would be the summary of currently available information on seabird status, distribution, and abundance. Identification of survey and research needs would be the natural outgrowth of such a study. Assessment of threats such as the impacts of introduced predators would also be made. The ultimate product of the project would be a prioritization of conservation needs based on species and colony status, levels of threat, and feasibility. Action plans, budgets, and time lines would then be developed.

A well-researched proposal to carry out the master plan recommendations, sponsored by PSG and including well-known Mexican and U.S. biologists, would likely be well-received and stand a good chance of being funded by governmental agencies or private conservation organizations. This approach could also serve as a model for similar international cooperative projects. The Pacific Seabird Group has an excellent reputation, and perhaps this is another way we can use and extend our collective expertise to benefit the resource.

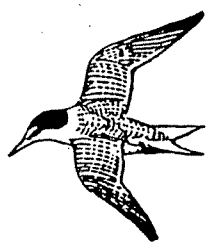
We are currently discussing these ideas with our Mexican colleagues, and so far they have been enthusiastically received. By the 1995 meeting we hope to have a working group established and start seeking funding for development of the master plan.

William T. Everett

PSG Goes to Japan
Continued from page 19

areas" near Miyakejima where local concentrations of birds could be found near shore. We repeated our stops returning to Tokyo. Streaked Shearwaters accompanied us all the way. We discussed cooperative research at length. It was evening when we reached the docks, carried our heavy gear through the rain to the subway, passed through the lighted stations and sleepily hiked back to Per's house. Ueta had stopped at an earlier station to switch to another subway line.

(To be continued. A follow up cooperative research trip between PSG and Japanese biologists occurred in early April 1994. Biologists Harry Carter, PSG Chair John Piatt, John Fries and Leigh Ochikubo travelled to several nesting islands of the Japanese Murrelet along with Japanese researchers.)



National Biodiversity Information Center

Work began in March to draft a proposal for a National Biodiversity Information Center. According to Peter Jutro, U.S. Environmental Protection Agency (EPA), the center will promote the use of standardized methods for collecting and managing data on biodiversity. The center will not maintain data on species, but rather will connect those seeking data to appropriate facilities. Other federal agencies involved include the U.S. Department of Agriculture, the U.S. Department of the Interior, the U.S. State Department, the National Ocean and Atmospheric Administration, and the National Science Foundation. The center is intended to complement the National Biological Survey, which was established in October 1993.

NAS Laments Inaction on Scientific Misconduct

The National Academy of Science (NAS) issued a statement in February to remind institutions to hold scientists to the highest ethical standards. Recent rulings in disciplinary cases imply that investigators may pursue only clear-cut cases of outright fraud and plagiarism. In response, NAS states "as members of the professional research community we should strive to develop and uphold standards that are broader than those addressed by the governmental regulatory and legal framework for dealing with misconduct in science." NAS, along with the Institute of Medicine and the National Academy of Engineering, suggested that the federal government establish a board to help define misconduct and other questionable practices in science. A recent extensive survey of scientists on misconduct concluded that instances of misconduct may be more common than previously thought.

Mink Ravage Seabird Colonies in Scotland

The October 1993 Newsletter of Britain's The Seabird Group included an article by J.C.A. Craik entitled "Notes from the War Zone." Craik describes the wholesale destruction of West Scotland's ground-nesting and cavity-nesting seabirds by mink, including gulls, terns, cormorants, eiders and black guillemots. Unlike many predators that generally kill only what they eat, a mink will hide as many eggs as it can, usually all eggs in a colony if there are less than 100 clutches. Later in the season, a mink will cache as many chicks as it can, as many as 100 in a single colony. Because mink will take up near permanent residence in a colony, they can cause all adults to desert.

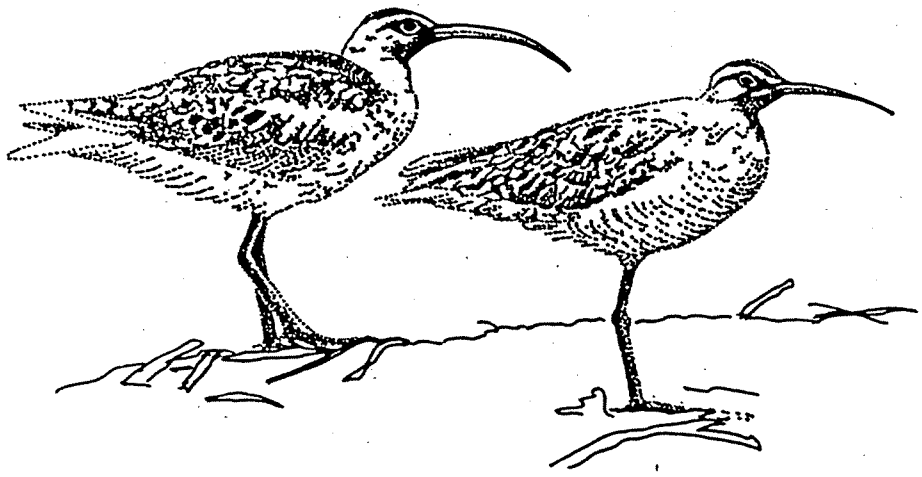
Mink are spreading in West Scotland, causing seabird colonies to relocate to mink-free areas. In many instances, this has resulted in the establishment of larger colonies. Whole populations of seabirds can be severely reduced by mink, and Craik increasingly encounters ghost seabird colonies. He concludes "the crucially damaging feature of mink predation, of gulls and terns at least, is that breeding is largely disrupted year after year so that steady mortality of adults from other causes can lead to a decline in numbers."

League of Conservation Voters, Environmental Report Card

The League of Conservation Voters (LCV) has assessed the environmental performances of the Clinton administration and Congress. It rated President Clinton with an overall grade of "C+" because he is "not working up to his potential." LCV gave Clinton an "A" for political appointments, a "B" for policy initiatives, a "C-" for delivery of environmental proposals and a "D+" for his environmental budget. The LCV gave most of the members of Congress a failing grade. Regionally, the LCV rated members of Congress from New England as the most pro-environment and members from the Rocky Mountain region the least.

One should be skeptical of report cards by any organization. It is often difficult to assess objectively governance issues, and LCV's seemingly objective numerical rankings are often gerrymandered by its selection of issues. For example, Clinton's "D+" for his environmental budget reflects a lack of funding for municipal sewage treatment plants. From PSG's perspective, the healthy budgets for the U.S. Fish & Wildlife Service, the National Biological Survey and the National Park Service would warrant a much higher grade. Moreover, the regional disparities in congressional voting records are no surprise. Representatives from Rocky Mountain states, whose economies depend on the use of land will never enthusiastically tighten restrictions on federal lands in their states. Representatives from New England, where the federal government owns little land, have a "free" vote when they restrict land use on the residents of states half a continent away.

The LCV is comprised of the lobbyists from non-profit organizations such as the Natural Resources Defense Council, the Environmental Defense Fund and the Wilderness Society that would lose their tax-exempt status (and much of their budgets) if they endorsed political candidates. LCV can be viewed as a somewhat aggressive means by which some non-profit organizations circumvent the tax laws and participate in electoral politics.



Regional Reports

PSG members are urged to send information on their activities to their regional representatives. Addresses and phone numbers of regional representatives are listed on the back inside cover of each issue of Pacific Seabirds.

CANADA

PACIFIC COAST - The Pacific and Yukon Region of the Canadian Wildlife Service, in collaboration with the Natural Sciences and Engineering Research Council of Canada has funded a Wildlife Chair at Simon Fraser University. The appointment of Fred **Cooke**, previously known mainly for his studies of arctic geese, has produced a flurry of activity on seabirds, with the junior chair, **Ian Jones**, about to establish a long-term program to study auk population dynamics at Canada's most important seabird colony, Triangle Island. Over the next decade, the Simon Fraser/CWS team hope to study the breeding biology and demography of **Cassin's Auklets, Rhinoceros Auklets, Tufted Puffins,** and **Common Murres**. First priority is being given to Cassin's Auklet, which has received relatively little attention in Canada, especially considering that half the world population breeds here (half a million pairs on Triangle Island alone). Ian plans to band several thousand this year, as well as study productivity, chick growth, and food. As part of that program, **Yolande Morbey**, a graduate student of **Ron Ydenberg**'s, will be carrying out a study of factors affecting age at departure for Cassin's Auklet chicks. A prefabricated research station is being landed on the island and assembled this spring and should provide working and living space for up to six people.

With this major program underway on **Cassin's Auklet**, both **Anne Harfenist** of C.W.S. and the Laskeek Bay Conservation Society will be carrying out studies intended to complement the work at Triangle Island. Anne will study breeding and survival at Frederick Island, a colony about one order of magnitude smaller than Triangle Island (90,000 breeding pairs), while the L.B.C.S. will study Cassin's Auklets at Reef Island, another order of magnitude smaller (2000 pairs). Anne will also be helping **Gary Kaiser** with the scheme to eradicate rats from Langara Island, where the population of **Ancient Murrelets** has been reduced by more than 90% over the past several decades. Gary will be running a trial eradication on the small Lucy Island, adjacent to Langara Island, this year.

Elsewhere in Haida Gwaii (Queen Charlotte Islands), several agencies are combining to monitor and control raccoon damage on seabird colonies. Parks Canada, the Canadian Wildlife Service, and the B.C. Parks Service will all be monitoring for the presence of raccoons on important colonies within their area of operation. Simultaneously, the B.C. Wildlife Branch will be testing different methods of raccoon control. A general strategy for dealing with the situation in the long term is being developed at present.

Activities relating to **Marbled Murrelets** continue in British Columbia, with **Alan Burger** (University of Victoria) carrying out forest and at-sea surveys to determine habitat use, including a collaboration with Parks Canada to monitor Marbled Murrelet use of coastal waters adjacent to the West Coast Trail on Vancouver Island. Alan is also maintaining regular boat surveys of offshore waters on the west coast of Vancouver Island as far as the edge of the continental shelf and continues with his previous studies of diving behaviour in auks. His student, **Sharon DeChesne** (University of Victoria) is continuing her studies of Marbled Murrelet vocalizations. **Andy Derocher**, of the B.C. Forest Service and Gary Kaiser (C.W.S.) will be studying Marbled Murrelet habitat use and demography in Theodosius Inlet, a project in which the Simon Fraser team are also involved. Meanwhile, **John Kelson, Irene Manley** and others involved in the **Clayquot Biosphere Programme** will continue to study forest and at-sea habitat around Clayquot Sound.

Vicki Friesen and colleagues at the Royal Ontario Museum, in collaboration with **John Piatt** (National Biological Survey), continue to investigate the phylogenetic relationships among the Alcidae, including the *Brachyramphus* murrelets. They have found that the **Long-billed Murrelet** (*B. marmoratus perdix*) merits full species status. They are now investigating the extent of genetic isolation among local populations of **Marbled Murrelets.**

The Straits of Georgia continue to receive plenty of attention from the Canadian Wildlife Service and Simon Fraser University, with a multidisciplinary project on marine and inter-tidal environments. As part of that programme **Rob Butler** (C.W.S.) and **Colin Clarke** (Simon Fraser) are developing a dynamic programming model of shorebird migration on the Pacific coast. **Ken Morgan** is carrying out surveys of marine birds at sea in the area and **Ian Goudie** (C.W.S.) is continuing studies of moulting **Harlequin Ducks. Terry Sullivan** (Univ. British Columbia) is completing a M. Sc. on growth rates of **Double-crested Cormorants.** Rob Butler and **Kees Vermeer** (C.W.S.) are jointly producing a report on the estuaries of the Strait of Georgia. Kees is also editing a collection of papers on the marine environments around Haida Gwaii, for which Ken Morgan is writing the account of marine birds. Kees will shortly be retiring, but he will remain in his current position as a "Scientist Emeritus". **John Elliot** will be running the periodic monitoring programme for contaminants in B.C. seabirds again this year, collecting the eggs of cormorants, petrels and **Rhinoceros Auklets.**

In Haida Gwaii, the Laskeek Bay Conservation Society will be continuing their studies of Ancient Murrelet demography, and Marbled Murrelet distributions and monitoring seabird numbers in Hecate Strait. Material on the Ancient Murrelet studies to date are being contributed to the P.S.G. Seabird Monitoring Database.

ARCTIC - Data on arctic seabird colonies accumulated by the Canadian Wildlife service since 1970 is currently being input into the Seabird Colony Registry, prior to the creation of a gazeteer for the area. This project is being coordinated by **David Nettleship** (C.W.S. Atlantic Region), with contributions from **Tony Gaston** (C.W.S.-HQ) and **Gilles Chapdelaine** (S.C.F., Quebec Region). In northern Hudson Bay, Tony Gaston, **Christine Eberl** (C.W.S.) and **Garry Donaldson** (University of Ottawa) are continuing studies of **Thick-billed Murre** population dynamics at the colonies on Coats and Digges islands. **Mark Hipfner** (Univ. Ottawa) will be studying chick growth and age at departure as part of

the same project.

In the western Arctic, **Lynne Dickson** (C.W.S., Yellowknife) is continuing surveys of breeding densities of **King Eiders** on Victoria and Banks islands. A program to census seabirds in southern Foxe Basin, organized by **Ilya Storm**, may go ahead if funding is forthcoming.

GREAT LAKES - During 1994 **Hans Blokpoel** and **Gaston Tessier** (C.W.S., Ontario Region) intend to publish two more volumes of their 5-volume series "Atlas of Colonial Waterbirds nesting on the Great Lakes, 1989-1991". Their first volume, dealing with Canadian Lake Superior, was published in 1993. They have submitted projects on the conservation of colonial waterbirds for funding by the Great Lakes Action Plan, but as yet no funding decisions have been made.

ATLANTIC - In Newfoundland, **John Chardine** is continuing studies of the breeding biology and feeding ecology of **Atlantic Puffin, Black-legged Kittiwake,** and large gulls at Witless Bay, especially with reference to the breeding failures experienced by surface feeders since 1990. As part of this work, **Jan Neuman** and **Heidi Regehr** are both completing M. Sc. projects on kittiwakes and **Mike Rodway** is doing the same on the puffins. **Vanessa Rodregues** is currently carrying out a project on the turnover rates of seabird corpses on beaches; part of a continuing research and monitoring program on beached birds. John is also monitoring hunter effort in the annual "turr" hunt and modelling the effects of changes in regulations on populations and harvest levels.

Bill Montevecchi (Memorial University) is continuing studies on the trophic relationships and feeding ecologies of NW Atlantic seabirds. Prey harvest of gannets (17th year), **Common Murres** (with **Pierre Ryan**, C.W.S.) and **Atlantic Puffins** (with **Janet Russell**, Mike Rodway) at several islands are being compared with fisheries and oceanographic data. Findings indicate delays in the inshore migration of pelagic prey and shifts in pelagic food webs, with more cold-water and fewer warm-water prey since 1990. These changes are associated with recent breeding failures of **Black-legged Kittiwakes** on Great (with Heidi Regehr), Baccalieu (with **Jill Casey**) and Funk islands and at Cape St. Mary's (with **Fyzee Shahood**). Fish plant closures in Newfoundland have increased pressure on other seabirds from predatory gulls. Together with a change to offshore dumping of offal, these factors have led to a decline in local gull populations that will probably continue.

Tony Gaston

Washington/Oregon

WASHINGTON - **Urich Wilson**, U. S. Fish and Wildlife Service (USFWS) Washington Coastal Refuges Office in Sequim, will continuing his annual photographic census of breeding cormorants and **Common Murres** on the outer coastand in the strait of Juan de Fuca, including Protection and Smith islands. He also conducted more intensive breeding surveys and studies on land and by boat at Protection and Smith islands, with emphasis on cormorants, **Pigeon Guillemots, Rhinoceros Auklets,** and **Tufted Puffins**. Other species surveyed by Ulrich included **Peregrine Falcons** (May-June), **Brown Pelicans** (September), **Brant** (October-May), waterfowl in the Dungeness/Sequim Bay area (October-May).

Louise Vicencio and **Mike McMinn** (USFWS) Nisqually NWRC will continue rudimentary seabird colony surveys by boat in the San Juan Islands during the summer. They will also conducted surveys of **Brown Pelicans** in Grays Harbor (September-October), shorebirds in Grays Harbor (April, August, and November).

Don Williamson (USFWS) Willapa Bay NWR, is conducting **Snowy Plover** surveys during the summer and monthly waterfowl surveys in the fall. Don is also continuing the **Brant** surveys at Willapa Bay.

Julia Parrish, Institute of Environmenal Studies at the University of Washington, will continue here colony studies at Tatoosh Island for the 5th year. Her work with **Common Murres**, recently funded by USFWS (Washington Field Office), has concentrated on population levels and productivity as well as interactions with predators.

Mary Mahaffy (USFWS). Puget Sound Estuary Program, and **George Divoky** are continuing to work with **Pigeon Guillmots** in Puget Sound. They will be banding adults and chicks in natural and artifical nests, installing additional nest boxes, and documenting nesting chronology and success. **Mary Mahaffy** and **Camille Bennett** are continuing their radio telemetry study of **Surf Scoters** as part of a study to evaluate and monitor the relationship between contaminants and scoters near Tacoma.

Dave Nysewander, Janet Stein, and **Matt Nixon** (WDW) are continuing their seabird/waterbird study under the auspices of the Puget Sound Ambient Monitoring Project. In addition to boat work, aerial surveys will be flown in July, January and February covering all inland marine waters and shorelines of Washington state. They will also be continuing to document adult/juvenile ratios for **Marbled Murrelets** in the study area.

Bill Ritchie and **John Pierce** (WDW) are coordinating the state program to monitor seabird/fisheries interactions. The study area is the North Puget Sound area from the San Juan Islands to the Canadian border. They will be intensively monitoring the gill net fishery that targets Frazer River Pink and Sockeye Salmon stocks and the Chinook and Chum Salmon fishery. In addition to monitoring incidental take of seabirds in gill nets they will be conducting seabird surveys amid the fishing activity.

Under the Habitat Conservation Planning program the Washington Department of Natural Resources (DNR) has contract with the WDW to conduct **Marbled Murrelet** habitat studies and identification on the outer Olympic Peninsula and in Southwest corner of the state. Project leader **Janet Anthony**, and biologists **Eric Cummins** and **Janet Hardin** (WDW) will be describing habitat quality by looking at forest structure and distance from salt water. The DNR project coordinator is **Lenny Young**.

Terry Wahl and others will continue to gather and analyze data on seabird occurence off the outer coast of Washington for the 23rd consecutive year. Anyone interested in participating can contact Terry at (206) 733-8255.

Jean Cross will conduct daily observations of Marbled Murrelets on a freshwater lake in July repeating her 1993 work.

OREGON - **Jan Hodder** and students at the Oregon Institute of Marine Biology will be continuing their study of the nesting success of **Pelagic Cormorants** at the OIMB colony in Sunset Bay at Cape Arago.