Pacific Seabird Group

BULLETIN

Volume 20 Number 1 1993

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 *Bulletin* 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 $15 (individual and family); $10 (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 Seabird Group *Bulletin*

The Pacific Seabird Group *Bulletin* (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. The Pacific Seabird Group *Bulletin* 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. Back issues of the Bulletin 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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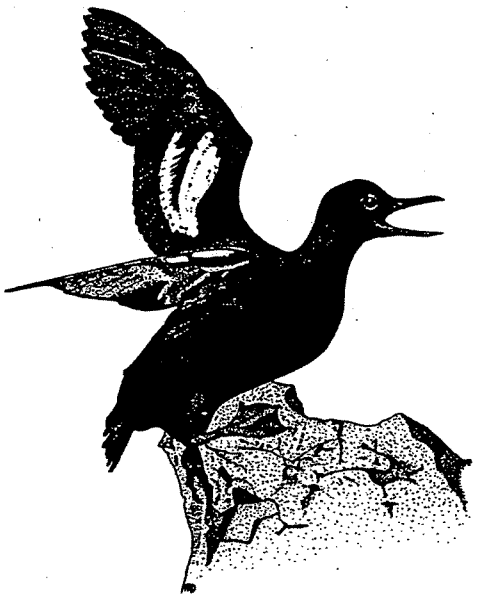

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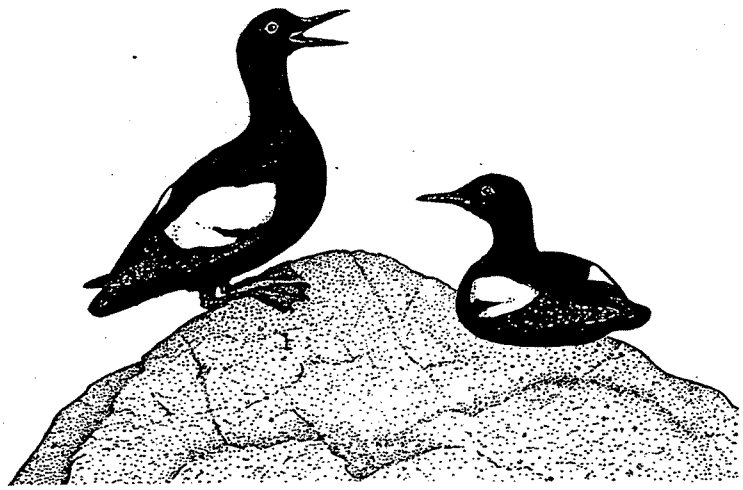

THE CHAIR'S PAGE

This last February PSG celebrated its first twenty years with the largest annual meeting in the Group's history. Over 200 registrants gathered to listen to 75 papers and participate in a wide range of formal and informal workshops. The vitality of the meeting demonstrated the health of the Group as it enters its third decade. In addition to the papers whose abstracts are presented in this Bulletin, the meeting included workshops on data analysis. The meeting was the first since the position of Vice-Chair for Conservation was created. Craig Harrison has filled that position for the past year and has greatly increased PSG's involvement in seabird conservation issues. A session dedicated to the discussion of current seabird conservation issues, such as the one Craig chaired in Seattle, should be part of all future PSG meetings. PSG members should look on these sessions as important forums for the exchange of information and let Craig know of any issues they feel should be included in next year's conservation session.

PSG's long history of publishing symposia continues with the recently published *Status, Ecology and Conservation of Marine Birds of the North Pacific* and the plans to publish the Marbled Murrelet symposium held in Seattle. These will be the ninth and tenth symposia held at PSG meetings that have found their way to print. Typically the most recognition PSG receives from these publications is a mention on the title page. Should PSG foresee the publishing of a symposium approximately every two years and if it would like to receive more credit for its efforts, it might be good to consider a regular publishing outlet that would better allow PSG's involvement to be recognized.

I would like to acknowledge the job that Palmer Sekora did last year as Chair of PSG. He was an important catalyst in increasing PSG's involvement in conservation issues and in implementing other changes coming out of the PSG 2000 committee.

Plan now to attend the annual meeting in Sacramento, California next January. I hope that your field season is successful, regardless of its level of funding.

George Divoky

POPULATION TRENDS OF ALASKAN SEABIRDS[1]

Scott A. Hatch, U.S. Fish and Wildlife Service, Alaska Fish and Wildlife Research Center, 1011 East Tudor Road, Anchorage, Alaska 99503

Ornithology in Alaska formally began with the observations of Georg Wilhelm Steller during Vitus Bering's voyage of discovery in 1741. Steller's journal makes brief mention of various seabird species he encountered during his travels in the Gulf of Alaska and Aleutian Islands (Frost and Engel 1988). For more than 100 years following Steller, the Russian-American Company was active in commercial fur harvesting throughout southern coastal Alaska, but this period saw little contribution to a scientific understanding of the region's avifauna. With the purchase of Alaska by the United States in 1867, a period of American exploration began that included significant work by pioneering naturalists such as Dall (1873, 1874), Elliot (1881), Nelson (1883), and Turner (1885, 1886). While this activity established a comprehensive list and general knowledge of the distribution of seabird species occurring in Alaska, early observers provided no quantitative estimates of abundance for any colony or region.

The observations of Heath (1915) and Willett (1912, 1915, 1917) at two locations in southeastern Alaska are notable for including the first numerical estimates of any seabird populations for comparison with recent data. Willett's (1912, 1915) estimates of 13 species are given in Table 1 with results from a 1976 survey at Forrester Island (DeGange et al. 1977) and a 1981 survey at St. Lazaria Island (Nelson et al. 1982). In the aggregate, seabird numbers appeared to increase dramatically at both sites, but the differences may be largely artificial. Because Willett (1915) did not employ rigorous sampling methods, DeGange et al. (1977) surmised that he grossly underestimated the populations of burrowing species such as storm-petrels, Cassin's Auklets, and Rhinoceros Auklets. Nelson et al. (1982) offered a similar interpretation of total storm-petrel numbers at St. Lazaria, but felt that a shift in the species ratio of Leach's and Fork-tailed Storm-Petrels had likely occurred. It seems reasonably certain that real changes in some of the open-nesters like Common Murres (down at Forrester Island, up at St. Lazaria) and Glaucous-winged and Herring Gulls (absent or down at both sites) have occurred since Willett's time.

Murie (1959) conducted a biological reconnaisance of most of the Aleutian Islands and Alaska Peninsula in 1936 and 1937. His work was prompted by concerns about the effect of introduced foxes on native birds, and he was careful to report at least his subjective impressions and any pertinent information he could glean from local residents. Murie noted seabird presence and absence in many instances and gave numerical estimates for some species in a few sites. Military construction projects prompted other early investigations at Middleton Island in the north-central Gulf of Alaska (Rausch 1958) and Cape Thompson in the Chukchi Sea (Swartz 1966). These studies provided reliable estimates of murre numbers—marked changes have occurred since the late 1950's in both locations (see below).

A few student projects (e.g., Bedard 1969, Snarski 1971) and surveys by the Fish and Wildlife Service, notably in Prince William Sound (Dwyer et al. 1976) and the Aleutian Islands (Sekora et al. 1979) in the early 1970's, included seabird population estimates in the decade and a half after 1960. However, the major watershed for seabird monitoring in Alaska was the advent of the Outer Continental Shelf Environmental Assessment Program (OCSEAP) in 1975, a program for generating baseline information in advance of offshore leasing of Federal lands for oil and gas development. For the first time, in-depth studies were conducted at numerous sites in the Gulf of Alaska, Bering Sea, and Chukchi Sea, and permanent plots were established for documenting changes in seabird numbers. Plots have been worked with some regularity since the mid-1970's, providing time series spanning 15+ years for a few common and easily studied species, especially murres and kittiwakes. Agencies such as the Fish and Wildlife Service and Minerals Management Service continue to develop and implement a seabird monitoring scheme in Alaska, which is beginning to reveal significant trends in some areas. A danger now is the temptation to extrapolate recent findings too liberally—either from one or a few areas to all of Alaska or by assuming that recent trends are representative of the long term patterns that must be understood in assessing the welfare of long-lived species. Results of this modern, quantitative work are summarized below, by species or species group, together with anecdotal historical information as appropriate.

[1] *Editor's note: Portions of this article are incorportated in a paper by D.G. Ainley, W.J. Sydeman, S.A. Hatch, and U.W. Wilson in the symposium "A century of avifaunal change" to be published by the Cooper Ornithological Society.*

Northern Fulmar

Most fulmars in Alaska breed in one of four locations: the Semidi Islands, Chagulak Island, the Pribilof Islands and St. Matthew Island. An additional 13 breeding sites are known, but together they account for less than 1% of the population (Hatch 1993). Without clear evidence from one or more of the major colonies, it is impossible to assess the overall trend of this species. Attendance counts on fixed plots were made in several years between 1976 and 1991-92 at the Semidi Islands and on St. George Island in the Pribilofs (Hatch 1987; Dragoo et al. 1990, 1991, pers. comm.). These counts suggested increasing numbers of fulmars at both sites, although the apparent trends were possbily due to better environmental conditions and reproductive performance in the later years. Hatch (1993) concluded it is too early to say whether either of these large colonies is growing.

Unquestionably, some small colonies of fulmars are growing in Alaska (Buldir Island, Barren Islands), and several are known to have been recently established (Barren Islands, Bird Island, and Castle Rock). Other colonies, some with as few as 4-6 individuals, may also be new, and all small colonies bear watching. It is possible that Pacific fulmars are only just beginning a significant expansion, though certainly nothing comparable to the growth of this species in the boreal Atlantic is evident as yet (Cramp et al. 1974, Lloyd et al. 1991).

Fulmars were adversely impacted by foxes introduced to existing and former nesting islands in the late 1800's and early 1900's. Murie (1959) mentions three Aleutian islands (Gareloi, Unalga, and Agattu) on which fulmars were thought to have been greatly reduced or extirpated by foxes. One additional island (Segula) on which Murie found fulmars nesting in 1936 is now without a colony (Early et al. 1980), undoubtedly because of the introduced foxes that still persist there (Bailey 1993). Probably the largest colonies to be impacted were on the Semidi Islands, which were used for fox farming between 1885 and about 1914 (Bower and Aller 1917). Foxes apparently died out naturally at the Semidis, and the fact that fulmars now occupy much habitat that would have been easily accessible to foxes suggests they have largely recovered from what were probably much reduced levels while foxes were present. Whether Alaskan fulmars have made a full recovery range-wide is unknown, but their population now is stationary or possibly increasing.

Storm-Petrels

Fork-tailed and Leach's Storm-petrels are widely distributed and abundant breeders in Alaska, but there are no data with which to assess population trends. Mammalian predators, both natural and introduced, appear to be an important factor limiting the distribution and abundance of petrels throughout the Pacific (Boersma and Groom 1993). It is clear that storm petrels are easy prey for foxes and that populations were decimated on some Alaskan islands when these predators were introduced (Murie 1959).

Cormorants

Four cormorant species nest in Alaska (Pelagic, Red-faced, Double-crested, and Brandt's), although Brandt's Cormorant is but a rare, casual breeder (Isleib and Kessel 1973). A small colony of Brandt's Cormorants (4 nests, 13 adult plumaged birds) was present on Seal Rocks, Prince William Sound in 1972 (Isleib and Kessel 1973), but has since been abandoned (Nysewander 1986). Intermittent breeding of a few Brandt's Cormorants is also known from southeast Alaska (U.S. Fish and Wildlife Service, unpubl. data). Red-faced Cormorants are thought to have expanded their range eastward in the north-central Gulf of Alaska in recent decades (Sowl 1979), just as they have in the western portion of their range on the Commander and Kurile islands (Siegel-Causey and Litvinenko 1993).

Nest counts of Pelagic and Red-faced Cormorants were conducted on several Alaskan islands during OCSEAP (1975-1978) and more recently. On Middleton Island, a large colony of Pelagic Cormorants (2000-4500 pairs) has fluctuated widely since 1974, but on average is much larger now than in 1956 (Rausch 1958 and pers. comm). In Chiniak Bay (Kodiak Island), 13 mixed colonies of Pelagic and Red-faced Cormorants were censused in 10 years between 1975 and 1991—the data reveal no consistent trends in either species (D.R. Nysewander and D.B. Irons, unpubl. data). At the Semidi Islands, a population of 1650 pairs (mostly Red-faced) in 1979 was down 43% (to 930 nests) in 1986 (Hatch and Hatch 1983; unpubl. data). These few studies include examples of stable, increasing, and declining colonies in recent years; therefore, no overall trends can be identified. For reasons that are not understood, cormorants often shift their colony locations between years, which increases the difficulty of monitoring populations (Hatch and Hatch 1983, Siegel-Causey and Litvinenko 1993).

Gulls and Terns

Like cormorants, Arctic and Aleutian Terns have relatively low site fidelity, and little effort has been made to monitor their populations. However, boat surveys in Prince William Sound suggest a substantial decline (> 50%) of Arctic Terns in that area between the early 1970's and late

1980's (Laing and Klosiewski 1993).

Among *Larus* species, only the Glaucous-winged Gull has been studied to any significant degree. Circumstantial evidence suggests that populations since the turn of the century have responded to two main factors—the occurrence and waste management practices of seafood processors and the introduction of foxes to nesting islands. For example, a decline in Prince William Sound since the early 1970's (Vermeer and Irons 1991, Laing and Klosiewski 1993), reflects the closure of some canneries, regulations that require grinding of offal before release, and a shift toward freezing fish instead of canning (M.E. Isleib, pers. comm.).

Gulls often respond conspicuously when foxes are removed from islands (Bailey 1993); for example, on the Alaid-Nizki group in the western Aleutians, gulls increased from about 200 to 1300 pairs within a few years after foxes were eradicated in 1976 (C.F. Zeillemaker and J.L. Trapp, unpubl. data). Murie (1959) noted that if foxes inhabited an island, gulls confined their nesting to offshore rocks.

The greatest documented change in a gull population in Alaska has occurred on Middleton Island. No Glaucous-winged Gulls were breeding on Middleton in 1956 (Rausch 1958). By the mid 1970's there were 500-700 pairs, and by 1990 the population had grown exponentially to more than 7000 pairs (S.A. Hatch, unpubl. data). Since this colony is well offshore and has no artificial food sources, a change in the supply of natural foods in summer is indicated. The island was uplifted some 4.5 m in the Alaska earthquake of 1964, which certainly altered its nearshore habitats. A change in winter carrying capacity might also be a contributing factor. From limited band returns, Glaucous-winged Gulls from the Gulf of Alaska are known to winter near west coast cities such as Portland and San Francisco.

Black-legged Kittiwakes have been studied more intensively than other species in Alaska because they are widely distributed and easy to observe. Early reports of a very large colony (up to 100,000 birds) on Whale Island near Kodiak (Gabrielson 1940; C.J. Lensink in 1956, pers. comm.) are at odds with a recent estimate of 6000 kittiwakes for that island (Sowls et al. 1978). A marked change in the opposite direction occurred on Middleton Island between 1956 and the mid 1970's. Rausch (1958) reported "several thousand" kittiwakes on Middleton in 1956 (qualified in a personal communication to mean 10,000-15,000 pairs). From 1974 through 1980, this colony peaked at 75,000-80,000 pairs, but has since declined to half that level (Fig. 1). In another early study, Swartz (1966) recorded 3500 kittiwakes on a cliff face at Cape Thompson in 1960. Subsequently, this colony has shown much annual variation related to breeding performance, but was little changed in 1988 (3600 birds) from Swartz's count. Elsewhere in Alaska, observed trends are equivocal—linear regressions of the data collected since 1970 suggest three colonies have increased (Chiniak Bay, Buldir, Cape Thompson), and three colonies have declined (Middleton, St. George, and St. Paul). Four colonies have shown no significant trends since 1970 (Fig. 1). Widespread declines of Black-legged Kittiwakes may occur in the future, because recent levels of productivity and survival are inadequate for a balanced life table (Hatch et al. 1993a,b).

Where Red-legged Kittiwakes have been monitored, they show similar trends to Black-legged Kittiwakes (down at the Pribilofs, up at Buldir; Fig. 1). Since most of the population breeds on St. George Island, the overall trend of this species is down. Judging from Turner's (1885, 1886) accounts (partly discredited by Murie 1959), Red-legged Kittiwakes may have been more widespread and abundant in the late 1800's. Turner (1886) reported this species as breeding on Akutan and possibly Sanak in the eastern Aleutians and considered it common west of there. Today, Red-legged Kittiwakes breed in only four locations: Pribilof Islands, Bogoslof Island, Buldir Island, and Commander Islands.

Small Alcids

This group includes the crevice-nesting auklets (*Aethia* spp. and *Cyclorrhynchus*), two burrowing species (Ancient Murrelet and Cassin's Auklet) and the enigmatic *Brachyrhamphus* murrelets (solitary tree or ground nesters). The rarest of these species is the Whiskered Auklet—nothing is known of its population trend; its distribution and abundance are still being documented. As for the other crevice-nesters, anecdotal accounts suggest some formerly large colonies became much reduced between the turn of the century and 1930-1970, e.g., Crested Auklets on Big Koniuji in the Shumagin Islands (Townsend 1913, Springer et al. 1993), Least Auklets on the Pribilofs (Elliot 1881, Hickey and Craighead 1977), and Least Auklets on Bobrof Island, central Aleutians (Murie 1959). Such changes can probably be attributed to introduced foxes, except on the Pribilofs, where arctic foxes are indigenous. More recently, there is evidence of substantial increases of Crested and Least Auklets on the Pribilof Islands (Craighead and Oppenheim 1985) and on St. Lawrence Island (Bedard 1969, Piatt et al. 1990).

It is likely that Ancient Murrelets and Cassin's Auklets were among the seabirds most seriously affected by fox introductions. Both species formerly nested abundantly on Sanak Island (Bendire 1895), but they were scarce or absent

when Murie visited the area in 1937. Murie (1959) also learned of probable declines or extirpations of Cassin's Auklet on other Aleutian Islands including Keegaloo, Adugak, Amlia (nearby islets), and Ilak.

Techniques have only recently been developed to locate the nest sites and monitor populations of *Brachyrhamphus* murrelets, especially Marbled Murrelets. However, boat surveys conducted in Prince William Sound in 1972-73 and again in 1989-91 suggested a substantial decline (up to 65%) of Marbled and Kittlitz's murrelets over that period (Laing and Klosiewski 1993). The reasons for such a decline are obscure, because old growth logging, the principal threat to Marbled Murrelets (Mendenhall 1992, Ewins et al. 1993), has not been extensive in Prince William Sound.

Large Alcids - Guillemots, Puffins, and Murres

Black Guillemots have a limited distribution in arctic Alaska (Bering Strait and Beaufort Sea coast), where their numbers have increased noticeably in the past 20 years. In the Beaufort Sea, the size of their breeding population appears to be governed by the availability of artificial nest sites (oil drums, wooden pallets, and other debris) on barrier islands (Divoky et al. 1974, Divoky and Boekeleide 1978). The more common and widespread Pigeon Guillemot has not been monitored closely in any colony; however, boat surveys in Prince William Sound suggest this species has declined over the last 20 years in that area (Laing and Klosiewski 1993).

Tufted and Horned Puffins are widely distributed in Alaska; they differ in the important respect that Horned Puffins usually nest in crevices, whereas Tufted Puffins dig burrows. As a result, Tufted Puffins were relatively vulnerable to introduced foxes. The case of Kaligagan Island in the eastern Aleuatians gives an indication of the possible damage—and its reversibility. Murie (1937) recommended this island should continue to be managed as a fox farm because of the paucity of breeding seabirds he found there in 1936. Foxes died out, however, and today Kaligagan has one of the largest Tufted Puffin colonies in Alaska (>100,000 birds; Nysewander et al. 1982).

There are few colonies of Rhinoceros Auklets in Alaska; most of the population breeds on Forrester Island, where the large colony described by Willett (1915) persists today (Table 1). The only site where a definite change is known is Middleton Island, where one of four small colonies located in 1976-78 (Frazer and Howe 1977, Hatch et al. 1979) had increased dramatically from fewer than 50 to more than 900 burrows by 1992 (S.A. Hatch, unpubl data).

In recent years, Common and Thick-billed Murres have been extensively studied in Alaska (Byrd et al. 1993), often in the same locations as the kittiwakes with which they tend to breed in close proximity on sheer cliffs. Where murres use more accessible habitats, breeding can be severely disrupted by mammalian predators (e.g., Petersen 1982) as well as competition for living space. Elliot (1881) described a large colony ("hundreds of thousands") of Common and Thick-billed murres on Walrus Island in the Pribilof group. As recently as 1953, this colony was estimated to contain more than 1 million murres (Peterson and Fisher 1955), yet in 1976 it had all but vanished (Hunt 1976). Encroachment of Steller sea lions onto the island's plateau, formerly dominated by murres, was the apparent reason for the demise of this colony (Hunt 1976).

Possible changes since 1912-1914 in murre colonies on Forrester Island and St. Lazaria Island have already been noted (Table 1). Most other information on murre trends in Alaska dates from the OCSEAP (1975 and later), with a couple of notable exceptions: Rausch's (1958) observations on Middleton Island in 1956 and Swartz's (1966) work at Cape Thompson in 1959-61. Large changes have occurred at both sites, but in opposite directions. At Cape Thompson, a 50% decline of murres occurred between 1960 and the mid 1970's. The population has been fairly stable since 1979 (Fig. 2). On Middleton Island, Rausch (1958) counted only about 400 murres, mostly Thick-billed. Today the island supports a similar number of Thick-billed Murres but also has 6000-8000 Common Murres that were not present in 1956.

Among other sites where murres have been monitored since the 1970's, some colonies have declined (e.g., Common Murres at Chisik Island and St. Paul; possibly Thick-billed Murres at St. Matthew) while others have grown (Cape Lisburne and Buldir Island) (Fig. 2). Remaining colonies show no significant trends since 1970, although information from Bluff suggested a downward shift between 1975 and 1979 (Drury et al. 1981, Murphy et al. 1986). Clearly, the overall picture for murres in Alaska is complex, and colony changes must be considered on a case by case basis.

Murres are highly vulnerable to floating oil, and Common Murres contributed by far the greatest number of casualties to the toll of marine birds in the Exxon-Valdez oil spill (Piatt et al. 1990). It is estimated that up to 300,000 murres were killed in the spill, and there is evidence that some colonies in the affected area were reduced by half (Nysewander et al. 1992).

Evaluating Causes of Seabird Population Changes

From the above survey of information on seabird population trends in Alaska, it is clear not only that many local populations have undergone marked changes in the last 100 years, but also that we are presently in no position to say whether the whole population of any given species is increasing, declining, or stable. A notable exception is the Red-legged Kittiwake, because most of this species nests on one island, St. George, where its numbers are declining.

Alaskan seabirds are killed incidentally in high seas gill nets (DeGange et al. 1993), and oil at sea poses a significant threat, as demonstrated recently by the Exxon-Valdez spill (Piatt et al. 1990, Nysewander et al. 1992). There is little doubt, however, that the introduction of exotic animals to islands—especially foxes, but also rats, voles, ground squirrels, and rabbits—has been the most potent anthropogenic factor affecting Alaskan seabirds over the past 100 years. Russian colonists made the first introductions between 1750 and the early 1800's, but the heyday of fox farming was an American enterprise from about 1885 to 1930 (Bailey 1993). Some 450 islands from southeastern Alaska to the western Aleutians were used as release sites for arctic and/or red foxes. Fox trappers regarded seabirds as "feed", and not surprisingly, some of our richest seabird islands supported the most successful, if short-lived, fox farms (e.g., Middleton Island, Semidi Islands). For obvious reasons, the most severely affected species included open ground nesters such as gulls, terns, and fulmars, and easily excavated fossorial birds like storm-petrels, ancient murrelets, and Cassin's Auklets. It may never be possible to document adequately the impact of fox farming on these species, but anecdotal accounts leave no doubt that it was locally disastrous (Murie 1959, Bailey 1993). Fortunately, this era has passed, and the damage is in most instances reversible. Fox farming ceased during the Great Depression, and through a combination of natural die-offs and eradication efforts, foxes remain on only about 50 islands where they were introduced (Bailey 1993). Some of these remaining islands are large, however, and probably impossible to rid of foxes unless current restrictions on the use of toxicants are lifted.

Changes in food supply, whether natural or anthropogenic, are another important category of influences on marine bird populations. Middleton Island presents an interesting case, because several species increased dramatically there between 1956 and the mid 1970's. This island may have attracted immigrating seabirds because of changes wrought by the 1964 Alaska earthquake—bathymetry in the area was altered significantly, possibly in a manner favorable to forage fish or other seabird prey.

Scavenging species like gulls and fulmars have probably benefitted from by-products of the fishing industry, whether from shore-based plants or factory ships on the high seas. An emerging issue, however, is whether fish harvests are altering the marine ecosystem on a large scale, to the detriment of seabirds and other consumers like pinnipeds and whales. For example, production of northern fur seals and adult populations of harbor seals and Steller sea lions have recently declined in the Gulf of Alaska and Bering Sea (York and Kozloff 1987, Merrick et al. 1987, Pitcher 1990). Walleye pollock, which currently support the world's largest single-species fishery (Lloyd and Davis 1988), are also important in the diets of pinnipeds (Lowry et al. 1988) and piscivorous seabirds (Hunt et al. 1981, Dragoo 1991) in the southeastern Bering Sea. Declining abundance of juvenile pollock has been offered as an explanation for pinniped declines and seabird changes in the Bering Sea (Springer 1992). The hypothesis addresses both the apparent increase of planktivorous auklets in the region (Pribilof Islands and St. Lawrence Island) and the decline of murres and kittiwakes (Pribilof Islands, St. Matthew Island)—auklets presumably compete with juvenile pollock for euphausiids and other zooplankton, whereas murres and kittiwakes take juvenile pollock at the Pribilof Islands and St. Matthew (Springer and Byrd 1988). The role of fishing in this scenario is unclear, because the adult pollock (age 2+) taken in the fishery are important predators on juvenile pollock and other seabird prey such as herring, myctophids, capelin, and sandlance (Straty and Haight 1979, Livingston 1991). Seabirds consume young pollock (ages 0 and 1) which are not harvested. Thus, this fishery could theoretically benefit piscivorous birds by reducing competition for their principal foods. Without question, the wholesale removal of large quantities of fish biomass from the ocean could have major, unforeseeable effects on the marine ecosystem. However, the issue whether current fishing practices in Alaska are, on balance, detrimental or beneficial to seabirds has yet to be resolved.

Mark Your Calendar!

Deadlines for submittals to the PSG *Bulletin* are **15 April** for the spring issue and **15 October** for the fall issue. Please make a note of these dates and plan your regional reports and other articles accordingly.

Also, please submit all material to be published on 3.5-inch disks. No 5.25-inch floppies!

Table 1. Population estimates (pairs) of seabirds breeding on St. Lazaria and Forrester islands, southeastern Alaska.

Species	St. Lazaria Island		Forrester Island	
	1912a	1981b	1914c	1976d
Northern Fulmar	---	---	0e	150
Fork-tailed Storm-Petrel	2,000	139,935	10,000	44,351
Leach's Storm-Petrel	20,000	130,065	50,000	344,244
Pelagic Cormorant	150	0	150	75
Glaucous-winged Gull	300	48	8,000	400
Herring Gull	---	---	220	0
Common Murre	300	2,500	20,000	5,000
Pigeon Guillemot	150	50	300	200
Ancient Murrelet	---	1,500	20,000	30,000
Cassin's Auklet	---	---	12,000	31,481
Rhinoceros Auklet	75	1,000	20,000	>54,000
Horned Puffin	12	0	1,100	500
Tufted Puffin	2,000	5,513	35,000	36,700
Total	24,991	280,614	176,820	547,101

a Willett (1912).

b Nelson et al. (1982).

c Willett (1915) except Cassin's Auklet (Willet 1917).

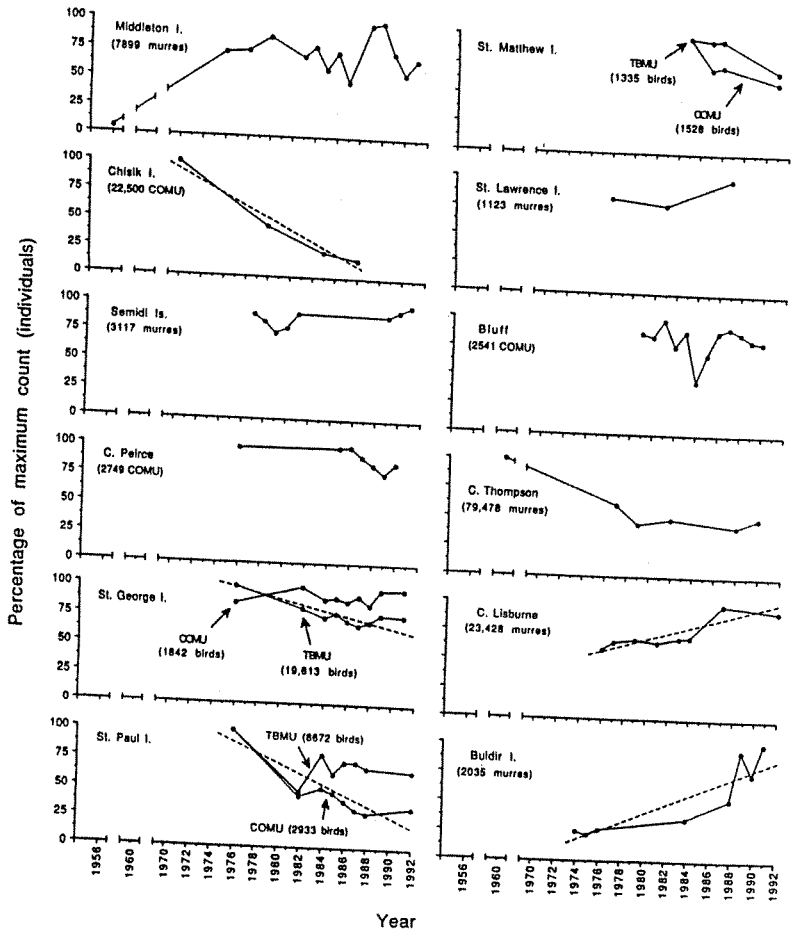

Figure 2. Population trends of Common Murres (COMU) and Thick-billed Murres (TBMU) at selected colonies in Alaska. Dashed lines indicate significant regressions ($P < 0.05$) of data collected since 1970. Sources: Middleton Island (Rausch 1958, Nysewander et al. 1986, S.A. Hatch unpubl. data); Chisik Island (Nishimoto et al. 1987); Semidi Islands (Hatch and Hatch 1989, Dragoo et al. 1991); Cape Peirce (Haggblom and Mendenhall 1993); St. George Island (Dragoo et al. 1990, unpubl. data); St. Paul Island (Dragoo et al. 1989, L. Climo pers. comm.); St. Matthew Island (Murphy et al. 1987, A.L. Sowls pers. comm.); St. Lawrence Island (Piatt et al. 1988); Bluff (Murphy et al. 1986, Murphy 1993); Cape Thompson (Fadely et al. 1989, Sharp 1993); Cape Lisburne (A.L. Sowls pers. comm.); Buldir Island (Williams and Byrd 1992).

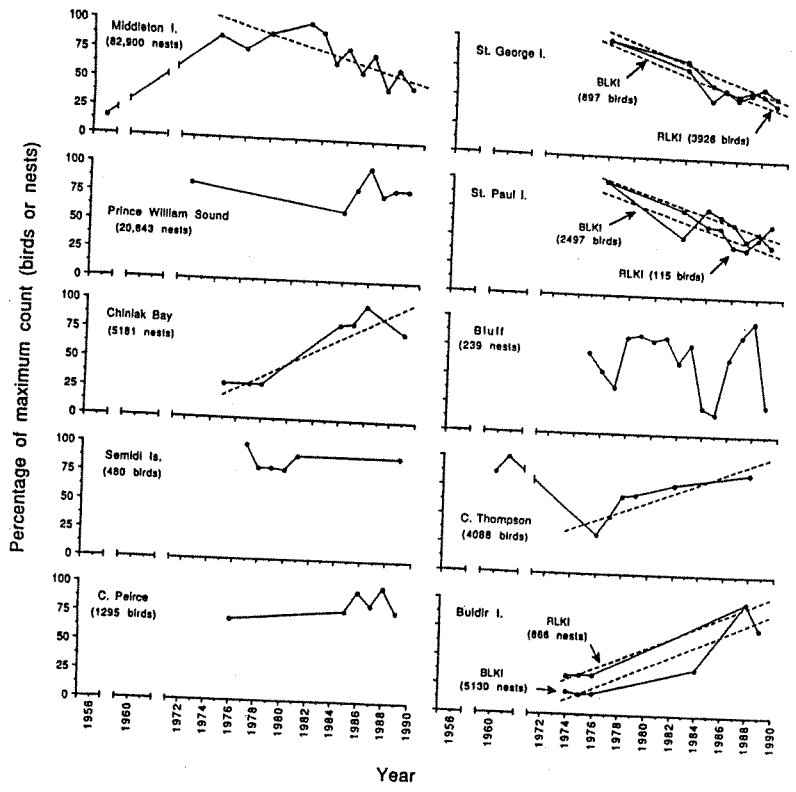

Figure 1. Population trends of Black-legged Kittiwakes (BLKI) and Red-legged Kittiwakes (RLKI) at selected colonies in Alaska (after Hatch et al. 1993 and references cited therein). Dashed lines indicate significant regressions ($P < 0.05$) of data collected since 1970.

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APPENDIX - Scientific names of species mentioned in the text

Birds

Northern Fulmar (*Fulmarus glacialis*)
Fork-tailed Storm-Petrel (*Oceanodroma furcata*)
Leach's Storm-Petrel (*Oceanodroma leucorhoa*)
Double-crested Cormorant (*Phalacrocorax auritus*)
Brandt's Cormorant (*Phalcrocorax penicillatus*)
Pelagic Cormorant (*Phalacrocorax pelagicus*)
Red-faced Cormorant (*Phalacrocorax urile*)
Glaucous-winged Gull (*Larus glaucescens*)
Herring Gull (*Larus argentatus*)
Black-legged Kittiwake (*Rissa tridactyla*)
Red-legged Kittiwake (*Rissa brevirostris*)
Arctic Tern (*Sterna paradisaea*)
Aleutian Tern (*Sterna aleutica*)
Common Murre (*Uria aalge*)
Thick-billed Murre (*Uria lomvia*)
Black Guillemot (*Cepphus grylle*)
Pigeon Guillemot (*Cepphus columba*)
Marbled Murrelt (*Brachyramphus marmoratus*)
Kittlitz's Murrelet (*Brachyramphus brevirostris*)
Ancient Murrelet (*Synthliboramphus antiquus*)
Cassin's Auklet (*Ptychoramphus aleuticus*)
Parakeet Auklet (*Cyclorrhynchus psittacula*)
Crested Auklet (*Aethia cristatella*)
Least Auklet (*Aethia pusilla*)
Whiskered Auklet (*Aethia pygmaea*)
Rhinoceros Auklet (*Cerorhinca monocerata*)
Horned Puffin (*Fratercula corniculata*)
Tufted Puffin (*Fratercula cirrhata*)

Mammals

Arctic fox (*Alopex lagopus*)
Red fox (*Vulpes vulpes*)
Steller Sea Lion (*Eumetopias jubatus*)
Northern fur seal (*Callorhinus ursinus*)
Harbor seal (*Phoca vitulina*)

Fish

Walleye pollock (*Theragra chalcogramma*)
Herring (*Clupea harengus*)
Capelin (*Mallotus villosus*)
Sandlance (*Ammodytes hexapterus*)

A "PSG 2000" PROPOSAL FOR SEABIRD DATABASES

Scott A. Hatch

Two observations: (1) In the forseeable future, two environmental threats will likely have a dominant influence on the welfare of seabirds and our professional efforts to protect them. These developments are global climate change and marine resource extraction (the removal of huge quantities of biomass from marine systems through commercial fishing). Both threats are global in scope, i.e., it is widely recognized that overfishing and its effects on marine ecosystems is a problem that has reached or is rapidly approaching a crisis stage the world over. (2) In the present age of ever more powerful and affordable microcomputers, it is possible for anyone to store and process vast amounts of data on a personal desktop system. Computing is rapidly becoming a fully distributed (decentralized) technology, which encourages and facilitates data-sharing as never before.

Both of these developments (computer technology and emerging global issues affecting seabirds) argue strongly for increased national and international cooperation in acquiring and processing information on seabird populations, not only because of concerns about the welfare of the birds themselves, but also because of the role that seabirds can serve as indicators of large-scale change in the marine environment. This was clearly the impetus for discussions of seabird databases at the annual meetings of the Pacific Seabird Group in Charleston and Seattle.

Discussion thus far has focused mainly on the feasibility of pooling information and creating a Pacific-wide or North American catalog of seabird colonies. To a lesser extent, the PSG has also addressed the issues as they pertain to pelagic surveys of seabirds. At the Charleston meeting, the Executive Council established a new standing committee on seabird monitoring, whose mission is to foster a third type of database to support analyses of time series and trends in seabird population parameters. In fact, there are four types of seabird databases that could be of enormous value in seabird research and conservation in the future. Briefly, these databases and some of their defining characteristics are as follows:

(1) Seabird colony catalog. This is basically a list of all known seabird colonies in a given region, with best available information on species composition and population sizes. It represents the state of knowledge of the distribution and abundance of breeding seabirds. This information is much in demand for land use planning, for damage assessment in the event of oil spills or similar events, and for the general information of everyone interested in seabirds. Estimates are of whole colony sizes and inevitably are crude in many instances.

(2) Pelagic seabird database. This includes all at-sea censuses of seabirds, whether from ships, airplanes, land-based seawatches, or small boats working the shoreline. Reasonably standardized techniques have been developed and used for most surveys conducted in the last 20 years or so. This database serves the same general purposes as the colony catalog, except it pertains to the pelagic distribution and abundance of seabirds, including the nonbreeding season.

(3) Seabird monitoring database. This incorporates observations on seabird population parameters that are replicated over time and measured with enough precision to permit the meaningful analysis of variability and trends. Generally, only a few of the colonies in a given region are represented, and data usually refer to sample plots rather than whole colonies. Any aspect of seabird distribution, abundance, demography, or behavior is a candidate for monitoring. The database works with information from colonies, as well as replicated pelagic surveys and miscellaneous techniques such as beached bird censuses. Finally, it incorporates time series of data on the physical and biological environment of seabirds as appropriate.

(4) Seabird bibliographic database. This database provides a cumulative index of all published and unpublished literature relevant to seabird research and management. For the published literature at least, it is possible to automate the process of creating such a database using various electronic library services already on line. The goal is to provide a system tailored specifically to the needs of seabird specialists, comprehensive and fully key word indexed by subject, species, and location. Waterfowl people have already done this for ducks and geese (or have made a passable effort at least)—seabird people should follow suit and do a first-rate job for seabirds.

While it is easy to see the potential benefits that each of these databases would have for seabirds and seabird professionals, achieving the necessary cooperation all around is easier said than done. Notwithstanding all the hours devoted thus far to technical matters (defining files, record formats, data fields, choosing IBM or Macintosh, choosing software, etc.), the main problems are not technical. Rather, the obstacles have mainly to do with professional competition—the reluctance of any work group to allow another's version of a database to emerge as the "standard", thus placing its originators in the position of being "in charge" of all the available data. There is also an understandable

reluctance on the part of many individuals to allow free access to their unpublished data. The Pacific Seabird Group can break the gridlock by assuming a leadership role in the development of the various seabird databases. As a relatively neutral forum with well-attended annual meetings, the PSG can sponsor multinational, multiagency working groups to address the problems of each of the four seabird databases. In this process, the PSG should assume both the primary responsibility and the credit for bringing these efforts to fruition. The Standing Committee on Seabird Monitoring was established with this philosophy in mind. A similar effort directed at each of the other possible databases is in order.

No single nation or government agency has responsibility for seabird research and conservation throughout the Pacific. However, members of the PSG represent all Pacific nations and all seabird interest groups, both public and private. As committee memberships change over time, the PSG can serve as the professional umbrella under which any individual with the time and interest can contribute on a "pro bono" basis toward the realization of comprehensive, international seabird databases. At least in the case of the U.S. Fish and Wildlife Service, there are specific provisions for employees to contribute such services to professional societies on company time, as long as the work is clearly relevant to the mission of the agency.

From its inception, the PSG has espoused the dual purposes of promoting scientific research and communication and actively supporting conservation measures for seabirds. The Group recently instituted a new position—the Vice-Chair for Conservation—to strengthen its effectiveness in that area. On the occassion of its 20th anniversary, the PSG should consider making the realization of comprehensive seabird databases its primary scientific mission through the year 2000. Seven years may seem like a long time, but we should be realistic about the amount of work required to get the job done. A counterpart to the Vice-Chair for Conservation—a Vice-Chair for Research and Technical Coordination, say—might help to ensure the success of the overall project. In any event, the necessary committees should be established and their roles and responsibilities spelled out as soon as possible.

Any professional society needs some core activities to maintain its vitality and keep the membership interested and motivated. For many societies, the publication of a journal provides an important source of pride and an ongoing call to action. In view of our recent decision not to go that route, why not substitute the development and "publication" of seabird databases as our main scientific mission? Besides, this would likely prove to be more influential in the long run than producing yet another ornithological journal, which many consider to be a glutted market anyway.

These ideas were considered and viewed favorably by the Executive Council in Seattle. The Chair has asked me to pursue the matter, and I will be grateful for any comments and suggestions received from interested PSG members in coming months. If you are interested in serving on one of the database committees, please let me know (keep in mind there is going to be real work involved). At next year's meeting in Sacramento, we will schedule a pre-conference workshop for setting up additional working groups (the Monitoring Committee is already on-line) and outlining the agenda for each activity.

Adiós, CEQ

The Clinton administration has proposed to abolish the 23-year old Council on Environmental Quality and replace it with Kathleen A. McGinty, a 29-year old former staffer to Vice President Gore. McGinty, whose title is director of the White House Office of Environmental Policy, earns $100,000 in her position. The CEQ oversees the implementation of the National Environmental Policy Act. Sometimes called the magna carta of environmental protection in the United States, NEPA requires all federal agencies to ensure that environmental values receive due consideration. NEPA dictates the preparation of environmental impact assessments of proposed federal actions that significantly affect the quality of the human environment. Eleven national environmental organizations, including the National Audubon Society and the Sierra Club, oppose the change. Long-time Washingtonians view this as a maneuver by the Vice President to eliminate potential dissent on environmental issues within the administration.

Mark Your Calendar!

Deadlines for submittals to the PSG *Bulletin* are **15 April** for the spring issue and **15 October** for the fall issue. Please make a note of these dates and plan your regional reports and other articles accordingly.

Also, please submit all material to be published on 3.5-inch disks. No 5.25-inch floppies!

STATUS CONCERNS FOR THE "GLOBAL" POPULATION OF KITTLITZ'S MURRELET: IS THE "GLACIER MURRELET" RECEDING?

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Among the world's seabirds, Kittlitz's Murrelet (*Brachyramphus brevirostris*) is unique because much of its distribution and life-history, including its breeding biology and feeding ecology, is associated primarily with the Pleistocene-remnant coastal glaciers of the North Pacific. During the breeding season, isolated pairs of this cryptically plumaged species nest on the ground typically in the lichen/high-alpine zone in the vicinity of glaciers and/or cirques, and feed among glacially silted freshwater plumes that discharge directly into the marine environment.

Historically, very little information has been published on the status, abundance, and distribution of Kittlitz's Murrelet. Available information on abundance includes the results of United States Fish and Wildlife Service (USFWS) surveys in Prince William Sound from the early 1970s, which indicated the population in Prince William Sound alone was more than fifty thousand birds. However, this number of Kittlitz's Murrelet was an extrapolation based on a limited data set and may have substantially over-estimated the Prince William Sound population at that time.

Today fewer than 18,300 Kittlitz's Murrelets remain in the world, and concern mounts for the continuing maintenance of a viable breeding population of this species. The USFWS has recently proposed Kittlitz's Murrelet as a candidate species on the Category-2 list, which means that threats or declines exist or are likely in the near future, and that USFWS needs further status survey information and an evaluation of threats before listing can be determined.

The estimate of a total population of 18,300 is based on 1) GIS analysis of the OCSEAP pelagic seabird database for Kittlitz's Murrelet which provided an estimate of 15,600 - 19,800 birds, and 2) numerous discussions with biologists familiar with the species from each of the following regions:

Glacier Bay National Park and Preserve region	4,500
Wrangell-St. Elias National Park region including Yakutat Bay	3,000
College Fjord-Unakwik Inlet, Prince William Sound region	3,000
Kenai Fjords National Park region	800
Kachemak Bay region	1,500
Katmai National Park and Alaska Peninsula to Unimak Pass	3,200
Kodiak Archipelago	300
Aleutian Islands - Attu to Unimak Pass	1,000
Cape Newenham to Wales - Seward Peninsula region	450
Chukchi Sea coastline, including Wrangell Island	450
Sea of Okhotsk	100
World Total	18,300

From this analysis, it appears that:

1. Alaska is home to over 95% of all Kittlitz's Murrelets remaining in the world today.

2. The U.S. National Park Service - Alaska Regional Office is the steward for over 50% of the world's remaining breeding population of Kittlitz's Murrelets. In particular, resource managers of Glacier Bay National Park and Preserve are responsible for overseeing perhaps the largest single breeding concentration of Kittlitz's Murrelets anywhere, representing one-fourth of the species total population.

3. If Kittlitz's Murrelet is typical of other members of the Alcidae (Auks), then it can be reasonably assumed that one-fourth to one-third of the world's population of this species is composed of non-breeding subadults. All members of the Alcidae, as well as most other marine birds, display "deferred maturity", in which individuals do not breed until they are 2 - 6 years old. Hence, if the world's total population of Kittlitz's Murrelet is fewer than 18,300 birds based on the best available current data and knowledge, then it is likely that there are fewer than 7,000 breeding pairs extant.

4. The main short-term threats to maintaining a viable global population of Kittlitz's Murrelets appear to be marine oil pollution, gill-net bycatch mortality, and diminished stocks of forage fish resulting from natural and/or man-induced perturbations to the trophic web of the North Pacific marine ecosystem. The main long-term threat appears to be the possible effects of global warming.

A. Kittlitz's Murrelet (along with the Whiskered Auklet) is considered by USFWS biologists as the species most sensitive to and at the highest risk from oil pollution in the marine environment. The 1989 *Exxon Valdez* oil spill might have depleted this species more than any other. Although

the total mortality of Kittlitz's Murrelet caused by the spill was relatively small (i.e., over 500 individuals), the percentage of the total world population affected (3.0% estimated) was probably higher than for any other avian species.

B. During the past decade, evidence has accumulated that implicates coastal gill-net fisheries as a persistent and significant source of mortality of adult, subadult, and/or juvenile Kittlitz's Murrelets, particularly in Prince William Sound and off the Copper River delta. Current sightings of the species in these areas suggest a substantial reduction in the numbers of Kittlitz's Murrelets during the past 20 years.

C. Abrupt changes in the abundance and distribution of forage-fish (e.g., capelin, sand-lance, herring, and juvenile pollock) have been implicated in the decline of a number of marine vertebrates (e.g., Steller Sea Lion, Red-legged Kittiwake, Northern Fur Seal, Thick-billed and Common Murres, and Harbor Seals) in the Bering Sea and the Gulf of Alaska. These changes are thought to be the result of alterations in trophic linkages of the food web of the North Pacific ecosystem due to intensive fish-harvesting management strategies and/or natural multi-year oscillations in the physical and biological environment of the Bering Sea and the Gulf of Alaska. Since it is known that Kittlitz's Murrelet relies significantly on forage-fish availability during both the breeding and non-breeding season, it is possible that Kittlitz's Murrelet numbers are influenced by these ecosystem changes cascading through the North Pacific food web.

D. Over the long term, a potentially significant threat to the Kittlitz's Murrelet is the gradual disappearance of coastal glaciers due to global warming over much of the species' range. Since the last Ice Age and the consequent retreat of many of the large North Pacific tidewater glaciers, Kittlitz's Murrelet has probably experienced a relatively low total population size (mid to upper tens of thousands). However, as the 21st century approaches, the constant global increase in green-house gases in the earth's atmosphere may impact Kittlitz's Murrelet more directly in unique but detrimental ways than any other species because of its tight relationship with the North Pacific's remaining coastal glaciers.

Already, during the past few decades, the southernmost population of Kittlitz's Murrelet in the vicinity of the LeConte Glacier (the southernmost tidewater glacier in North America near Petersburg, Alaska), has apparently become extinct.

Acknowledgements: The following individuals provided numerous comments on the Kittlitz's Murrelet population estimates and various conservation concerns, but are not responsible for the outcome of the final draft: Mike McAllister, Spencer Sealy, Alan Springer, A. Kondratyev, Pete Isleib, Bob Day, Harry Carter, Peter Walsh, Richard Gordon, George West, Richard MacIntosh, Vern Byrd, Ed Bailey, Pat Gould, Kathy Kuletz, Nancy Naslund, and John Piatt.

People for the Ethical Treatment of Animals promotes "animal rights" and opposes human use of animals, including use in laboratories, as pets or for human food. PETA would probably oppose many management techniques that benefit seabirds. PETA held an Animals' Inaugural Ball at the posh Willard Hotel in Washington DC, a few blocks from the White House and raised $150,000 from Hollywood types. In a spoof reported by MTV and the New York Times, PETA was crashed by plants rights activists who featured signs such as "roots have rights," "fruit freedom," and "flower power." The plants rights activists chanted "stop the murder, stop the pain, stop the slaughter of innocent grain" and "animals should just eat one another and leave plants alone."

Apocalypse Now? In February 1992, astronomer Carl Sagan predicted that Kuwait's burning oil fields would release a black cloud that would trigger a "petroleum autumn," similar to a nuclear winter. Next time Sagan should focus on seabirds.

Forest Summiteers report that the discussion at the April 2 meeting in Portland was scripted. Participants provided organizers with written statements and proposed answers to potential questions. The organizers edited these statements. It is unclear whether invitees who refused to submit to editing were allowed to participate.

Hard Science in Time Magazine? Charles Alexander stated, "as science editor of Time, I would freely admit that on [environmental issues] we have crossed the boundary from news reporting to advocacy."

SEABIRD CONSERVATION

Craig S. Harrison
Vice Chair for Conservation

The Pacific Seabird Group has been active in conservation during the past year. The following summarizes the most important seabird conservation issues. Members who have information about issues that may benefit from PSG involvement should contact me.

Exxon Valdez Oil Spill (EVOS) Trust Funds

PSG is monitoring the expenditure of the billion dollar restoration fund from the *Exxon Valdez* oil spill. PSG's primary recommendations to the Trustee Council have been to purchase seabird habitat, remove predators from seabird colonies and establish endowed chairs at the University of Alaska for seabird research. In June 1992, PSG commented extensively on the proposed restoration framework, draft work plan for 1992 and the solicitation for suggestions for the 1993 work plan. In November, PSG commented on the draft work plan for 1993. In April 1993, PSG suggested the Trustee Council endow the following chairs at the University of Alaska:

- Seabird Breeding Biology
- Seabird Foraging Ecology and Pelagic Distributions
- Shorebirds
- Marine-Oriented Waterfowl
- Bald Eagle Ecology

Past chair Palmer Sekora nominated Jim King, one of PSG's founders, to the Trustee Council's 17-member Public Advisory Group. Jim's nomination was endorsed by the National Audubon Society and the National Wildlife Refuge Association. In October 1992, the Trustee Council selected Jim to represent conservation interests on the Public Advisory Group. Jim's appointment provides PSG with a rare opportunity to work with the Trustees to improve the restoration program.

The Trustees will circulate a draft restoration plan during spring 1993. Members who are willing to review the plan and wish to assist in the preparation of PSG's comments should FAX their suggestions to me at least two weeks before the public comment period closes.

PSG Testifies to Congress on EVOS Restoration

At the invitation of Chairman Gerry E. Studds of the House Committee on Merchant Marine and Fisheries, PSG provided written testimony at the March 24, 1993 oversight hearing on the restoration of Prince William Sound. Among other things, PSG encouraged the use of the very best science in decisionmaking, supported the purchase of appropriate seabird habitat and urged the restoration of the natural bio-diversity of seabird breeding islands by eliminating non-native predators. PSG also recommended that federal and state agencies use their existing authorities to protect species damaged by the spill (e.g., by curtailing logging or enforcing the Migratory Bird Treaty Act to protect marbled murrelets that drown in gillnets). Finally, PSG expressed concern that the restoration of seabirds has been limited to the geographic area of the oil slick, which ignores injury to migratory seabirds.

PSG's Pacific-Wide Predator Removal Program

Thanks to information provided by regional representatives and other members, PSG has compiled a tentative list of islands where introduced predators should be removed from seabird colonies. As is evident throughout this report, PSG is not waiting for a final list to begin advocating programs to restore seabird breeding islands.

Predator Removal Program in Alaska

During the past year, PSG has written numerous letters to FWS' regional director in Alaska and the refuge manager of the Alaska Maritime National Wildlife Refuge concerning the removal of foxes and rats on seabird islands. By raising the profile of this issue, PSG seems to be making some progress. PSG has been told that fox removal is now one of the highest priorities of FWS' regional director in Alaska. In March 1993, PSG chair George Divoky wrote to Secretary of the Interior Bruce Babbitt and asked Secretary Babbitt "to restore the natural bio-diversity of the seabird colonies in the Alaska Maritime National Wildlife Refuge by promoting an aggressive program to eliminate exotic rats, foxes and other creatures that have caused the local extinction of seabird colonies."

Protocol to United States - Canada Migratory Bird Treaty

The United States and Canada are considering a protocol (amendment) to the 1916 Migratory Bird Treaty with respect to subsistence hunting. FWS requested comments on such a protocol. On April 20 1992, former chair Palmer Sekora wrote to the director of FWS and asked that the Service fully implement the migratory bird treaties with Japan and Russia and that the Service ask Congress for authority to enforce the Migratory Bird Treaty Act in the 200-mile Exclusive Economic Zone. PSG worked with the International Council for Bird Preservation, an umbrella organization of over forty ornithological organizations, and the World Wildlife Fund, both of which wrote to the FWS director and raised similar issues.

Funds to Remove Predators from Mexican Seabird Islands

At the request of PSG, the International Council for Bird Preservation's testimony to the House Appropriations Committee on March 24, 1993 proposed that Congress appropriate funds to remove alien predators from Isla Clarión (Revilla Gigegdos) and North Coronado Island, Mexico. This action would allow Xantus' Murrelets, Townsend's shearwaters and ashy storm-petrels to resume normal breeding, hopefully avoiding the necessity to list them under the Endangered Species Act. The recent interest in Mexico's environment as a result of the North American Free Trade Agreement (NAFTA) may persuade Congress to fund this project.

Proposed AOU Resolution Concerning Seabird Islands in Mexico

PSG has asked the American Ornithologists' Union to adopt a resolution to ask FWS and Mexico's Departamento de la Fauna Silvestre to (1) take immediate steps to remove alien predators from North Coronado Island and Isla Clarión, Mexico; (2) take measures to restore the natural bio-diversity of other current and former seabird breeding colonies in Mexico, including Isla Salvatierra, Isla Alcatraz and Las Grandes Islas; and (3) establish a program to identify all seabird colonies in Mexico whose populations are limited by alien predators and remove the predators no later than the year 2000.

Endangered and Threatened Species

Under the leadership of Kim Nelson and the Marbled Murrelet Technical Committee, PSG followed closely the listing of the marbled murrelet as an threatened species in October 1992. PSG issued a press release in support of the listing soon after it was announced. Bill Everett has formed a working group to assess the status of the Xantus' Murrelet and to determine whether PSG should petition to list it as endangered under federal or State of California law. PSG is following FWS' activities with respect to the listing of the population of Harcourt's Storm Petrel (*O. castro*) in Hawaii. PSG is also considering whether to support the down listing of the endangered brown pelican, an action that has been recommended by numerous PSG members, including David Ainley, William Everett, George Hunt and Joseph Jehl. Anyone with strong views on this subject should contact me.

National Marine Sanctuary Site Evaluation List

NOAA is in the process of revising its site evaluation list for new marine sanctuaries. Members who have thoughts on possible marine sanctuaries in the Pacific, especially Alaska, should contact me. It may be possible for PSG to work with some of the native organizations to support a marine sanctuary in the Bering Sea. PSG recently endorsed the Bering Sea Coalition's proposal to close a zone around the Pribilof Islands to trawl fishing.

Hawaii National Marine Sanctuary

On April 14, 1993, PSG commented on a marine sanctuary in the main Hawaiian Islands that is being established by congressional directive. Unfortunately, the sanctuary represents a minimalist approach that is designed to improve the political image of its sponsors rather than protect marine resources. NOAA staffers want to enhance the legislation to ensure a multi-site and multi-resource sanctuary that would provide comprehensive and coordinated protection for a marine ecosystem. PSG has suggested that the sanctuary boundary be expanded to include (1) waters from Kilauea Point National Wildlife Refuge to Makaha Point, including the Na Pali coastline, on Kauai and (2) the waters adjacent to the Hawaiian Islands National Wildlife Refuge, including Midway Islands and Kure Atoll.

PSG has been attempting to persuade NOAA to establish a marine sanctuary in the waters adjacent to the Hawaiian Islands National Wildlife Refuge since 1983. Those islands provide breeding habitat for 18 species of seabirds, the total population of which is about 14 million birds as well as the only breeding habitat for the endangered Hawaiian monk seal and important nesting habitat for the threatened green sea turtle. Since 1991, PSG has been requesting that NOAA establish a marine sanctuary the waters offshore north Kauai. Kilauea Point has the largest colony of seabirds in the main islands, including a growing colony of Laysan Albatrosses, wedge-tailed shearwaters, red- and white-tailed tropicbirds and red-footed boobies. The cliffs along the Na Pali coast contain many small nesting colonies of black noddies, tropicbirds and possibly brown boobies.

Implementing the Migratory Bird Treaties

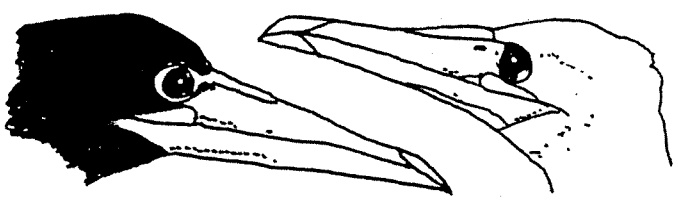
The House Merchant Marine Committee is interested in the status of the implementation of the migratory bird treaties with Japan (1972) and Russia (1976). The Committee is considering whether the Migratory Bird Treaty Act should be amended to be enforced throughout the 200-mile Exclusive Economic Zone. It is also may ask FWS and other federal and managers (National Park Service, Department of Defense) to identify any additional authority or funds that they may need to fully implement the treaties. The treaties require the United States to take measures "to control the introduction of live animals and plants which could disturb

the ecological balance of unique island ecosystems" and to prohibit the "disturbance of nesting colonies." They also require the United States to preserve and restore natural ecosystems. The treaty with Russia requires the United States to prevent and abate detrimental alteration of their environment. Twenty years after these treaties, FWS has not yet to restore many refuge islands in the Pacific to their natural predator-free condition.

NMFS-FWS Memorandum of Understanding for Seabird Management

By invitation, I spoke to NOAA's Marine Fisheries Advisory Committee on September 29, 1992 concerning seabird-fisheries problems in the Pacific. I reviewed the federal, state and international laws that protect seabirds, especially the Magnuson Fishery Conservation and Management Act, the Migratory Bird Treaty Act and the Endangered Species Act. After discussing the general policies and implementation of the statutes by FWS and NMFS, I reviewed specific seabird-fishery problems, both documented and perceived. Thanks to the PSG members who summarized the issues in their areas, I was able to provide the advisory committee with a current assessment of seabird-fisheries problems, including direct take (nets and hooks), indirect injury (food shortages) and general disturbance by fishing vessels. Several members of the committee questioned why the brown pelican remains listed as endangered in California.

The Marine Fisheries Advisory Committee and NMFS want to improve management of seabirds to avoid crisis situations. NMFS is interested in negotiating a memorandum of understanding with FWS to provide NMFS with more authority to manage seabirds during the portions of their life cycle when they are at sea. Currently federal regulations have such a management regime for sea turtles — FWS is responsible when turtles are on land and NMFS is responsible when the turtles are at sea. There is plenty of room for debate on this issue, and the successes and failures of sea turtle management are worth a critical review.



Marine Wildlife Rehabilitation Center.

The California Department of Fish and Game and the University of California, Santa Cruz, will build a marine wildlife rehabilitation center at the Long Marine Laboratory in Santa Cruz. The Center will treat marine animals harmed in oil spills in California. The $4 million facility is to be built by mid-1995. The center is required by California's Oil Spill Prevention and Response Act, enacted in 1990.

Interior Begins National Biological Survey

Interior Secretary Bruce Babbitt is asking Congress for funds to map the biological resources of the United States. As explained by the Secretary on April 26, the National Biological Survey will be a new agency within Interior. A month earlier Babbit had announced that it would be administered by FWS' research division, Region VIII, but apparently the National Park Service and the Bureau of Land Management prevailed in persuading the Secretary to establish a new agency entirely. The Smithsonian Institution's Thomas Lovejoy is on loan to Interior to design the unit. Secretary Babbitt says the new survey unit would eliminate jurisdictional boundaries within Interior. Research is to be gathered from universities, cooperative research units, private researchers, state and federal agencies and then coordinated into ecosystem-wide databases that anyone can access.

Quotable Quotes

"What started out as a love affair is starting to seem more like date rape." — National Wildlife Federation President Jay Hair, reacting to the President's reversal of a promise to end below-cost timber sales, mining and grazing fees.

"That is an absolute disaster. It breaks a campaign promise." Ralph DeGennaro, Friends of the Earth, reacting to the President's budget in which spending to purchase park and refuge lands was reduced.

Regional Reports

Alaska

David Irons, Greg Golet, and a team of biologists with the Marine and Coastal Bird Project, U.S. Fish and Wildlife Service (FWS), are continuing their study of populations, productivity, survivorship, and diets of **Black-legged Kittiwakes** in Prince William Sound (PWS). Greg is also completing his field work on a study concerning the cost of reproduction of kittiwakes at Shoup Bay in PWS. This long-term monitoring project began in 1984 and represents one of the longest continuous Black-legged Kittiwake studies in Alaska.

Beverly Agler is the new study leader for the Marine and Coastal Bird Project's (FWS) continuing population surveys of seabirds in PWS and Lower Cook Inlet (LCI). The surveys are being conducted under the guidance of **David Irons**. The PWS survey is being funded by the *Exxon Valdez* oil spill program and the LCI survey is being supported by the Minerals Management Service.

Gerry Sanger, back with the FWS after an absence of several years, is initiating a new survey of **Pigeon Guillemot** colonies in PWS. He is being assisted by **Mary Cody** and a team of biologists with the Marine and Coastal Bird Project. This project is being funded by the oil spill program.

Art Sowls, Leslie Slater, Jeff Williams, Dave Roseneau and other biologists of the Alaska Maritime Refuge will again be involved in several projects that monitor cliff-nesting seabirds such as Buldir, Bogoslof islands in the western Aleutians, the Barren Islands and Duck and Chisik islands in lower Cook Inlet, Cape Lisburne in the Chukchi Sea, St. George Island in the Bering Sea, and St. Lazaria and Forrester islands in Southeast Alaska.

Alexander Golovkin and a team of oceanographers will be on St. Paul Island for their second year of monitoring cliff-nesters. This study is being supported by a grant from the Department of State.

John Piatt (Alaska Fish and Wildlife Research Center) will continue (3rd yr) studies of **Tufted** and **Horned Puffin** feeding ecology in the eastern Aleutians and along the Alaska Peninsula (with **Jay Pitocchelli, Alexander Kitaiskiy, Tom van Pelt, Nancy Naslund, Scott Hatch,** and **Vern Byrd**). Stable isotope studies (with **Keith Hobsen** and **Dick Merrick**) of fish, seabird and marine mammal trophic interactions will continue for a third year. **Tom van Pelt** and **John Piatt** were busy this spring investigating a large–scale die–off of **Common Murres** in the Gulf of Alaska. With MMS funding, **John Piatt** will be working with **Glenn Ford** and many others to compile a database on the pelagic distribution of seabirds in the North Pacific.

Suzanne Speckman (University of Alaska, Fairbanks, under supervision of **Alan Springer**) will conduct her second year of study on daily and seasonal attendance patterns of **Marbled Murrelets** in Auke Bay with support of the USFWS.

Scott Hatch (Alaska Fish and Wildlife Research Center) will continue long term studies on **Black–legged Kittiwakes** on Middleton Island (with help from **Verena Day**), and re–initiate studies on the Semidi Islands (with **Lindsey Hayes**). Research will include population monitoring of kittiwakes, murres, puffins, etc., as well as assessing productivity, annual survival (banding), and food habits of these species. Similar studies were initiated last year on Talan Island in the Sea of Okhotsk in collaboration with **Alexander Kondratiev** (Magadan, Institute for Study of Biological Problems of the North).

University of Alaska professor **Ed Murphy** and graduate students **Dean Kildaw, Tara Curry**, and **Sharon Loy** are currently involved in several seabird studies on St. George Island, Pribilofs. Ed and Dean are studying the reproductive biology of **Red-legged** and **Black-legged kittiwakes**; Ed and Tara are attempting to measure the effects of aircraft disturbance on **Thick-billed Murres** nesting near the airstrip; and Ed and Sharon are studying the behavior of **Red-legged** and **Black-legged kittiwakes** on and around the new airstrip on St. George. Also from the University of Alaska at Fairbanks, **Dan Roby** and **Brian Lance** are doing comparative studies of **Red-legged** and **Black-legged kittiwake** chick feeding behavior and chick growth rates on St. George Island. **Alan Springer** of the Insitute of Marine Science at UAF is continuing his study of kittiwake and murre feeding ecology on the Pribilofs.

At Bluff on the Seward Peninsula. **Ed Murphy** and **Paul Rossow** are studying the caching of **murre eggs by ravens.**

Kent Wohl

ALASKA-RUSSIAN SEABIRD CONNECTION

Seabirds are important resources shared by the Russian Far East and Alaska in Beringia. Improved political relations between Russia and the U.S. have provided new opportunities for cooperating in the study and management of seabirds in Beringia. Several projects initiated recently deomonstrate this new spirit of cooperation and communication between Russian and American seabird specialists.

Beringian International Seabird Working Group (BISWG). The BISWG was conceived in November 1991 under the auspices of the "U.S. - U.S.S.R. Agreement on Cooperation in the Field of Environmental Protection (1972)". As stated in its Charter, the BISWG will ensure that Americans and Russians interested in northern seabird resources will have a common forum to promote, facilitate and coordinate research, management and conservation activities of mutual concern. Its specific objectives are to: identify current and emerging seabird research, management, and conservation problems, facilitate publishing and exchanging seabird information, and facilitate using standard field protocols and data analyses. In addition, the BISWG will help facilitate cooperative seabird projects and bilateral management of shared populations. The BISWG is comprised of the six members listed below. The six members represent the range of organizations and geographical areas important to seabird research, management and conservation in Beringia.

Kenton D. Wohl (U.S. Co-Chairperson), U.S. Fish and Wildlife Service, Anchorage, Alaska, U.S.A.

Alexander N. Golovkin (Russian Co-Chairperson), Ministry of Ecology, Institute of Nature Conservation and Reserves, Moscow, Russia.

Edward Murphy, University of Alaska Fairbanks, Fairbanks, Alaska, U.S.A.

David Cline, Alaska-Hawaii Regional Office, National Audubon Society, Anchorage, Alaska, U.S.A.

Alexander Ya. Kondratyev, Institute of Biological Problems of the North, Russian Academy of Sciences, Magadan, Russia.

Nicolai Gerasimov, Kamchatka Institute of Ecology and Nature Management, Russian Academy of Sciences, Petropavlovsk-Kamchatsky, Russia.

The BISWG conducted its first working meeting in Magadan in December 1992. The "Declaration of Participants" of the first meeting is available from Kent Wohl, U.S. Fish and Wildlife Service, Anchorage. The second meeting of the BISWG is scheduled for the fall of 1993 in Anchorage.

Alaska-Russian Far East Sister Refuges. A proposal to create "sister refuges" between Izembek National Wildlife Refuge on the Alaska Peninsula and Kronotskiy Nature Reserve on the Kamchatka Peninsula was presented in March 1993 at the U.S.- Russia Environmental Agreement (Area V) meeting. The sister refuges were part of a larger initiative to create an Aleutian Chain Biodiversity Region. The objectives of the initiative are to: 1) study the biological communities and species common to both refuges and to the island chain and 2) jointly preserve the biodiversity of the region.

Red-legged Kittiwake Project, Commander Islands. Several joint Alaskan-Russian projects involving red-legged kittiwakes have been initiated since 1992. A new study of populations, productivity, and food habitats of red-legged kittiwakes was initiated on the Commander islands in 1992 by Larissa Zelenskaya, IBPN, Magadan, and Peter Vyatkin, Kamchatka Institute of Ecology and Nature Management (KIENM), Petropavlovsk-Kamchatsky. Larissa's study will complement studies by the Alaska Maritime National Wildlife Refuge on St. Paul and St. George islands (Pribilof Islands) and on Buldir and Bogoslof islands (Aleutians). It will also complement the work of Alexander Golovkin, Institute of Nature Conservation and Reserves, Moscow, on St. Paul and St. George islands.

In addition, Vern Byrd, Golovkin, Zelenskaya, and Vyatkin have agreed to share their data and prepare a joint paper on the status of the red-legged kittiwake in the Bering Sea for publication in 1993.

Beringian Seabird Colony Catalog. An Alaska-Russian Far East seabird colony catalog database is continuing to be jointly developed through the cooperation of Vivian Mendenhall, U.S. Fish and Wildlife Service, Anchorage, and Alexander Kondratyev, IBPN, Magadan. The Alaska Seabird Colony Catalog database system will be adapted for the Russian Far East colony data. Russian colony data will start being entered in fall 1993; a joint catalog publication is planned for 1996.

Peter Vyatkin, KIENM, Petropavlorsk-Kamchatsky, will be completing a census of seabird colonies in the Commander Islands in 1993 as part of the joint colony catalog project.

Black-legged Kittiwake Project, Talon Island, Sea of Okhotsk. Scott Hatch, Alaska Fish and Wildlife Research Center, Anchorage, is collaborating with Alexander Kondratyev, IBPN, Magadan, on a study of the comparative aspects of black-legged kittiwake population structure and dynamics on Talon Island and selected colonies in Alaska. Scott will be travelling to Talon Island in May 1993 to begin the second year of this collaborative project.

Regional Reports

Inland

A symposium entitled "The Double-crested Cormorant: Biology, Conservation & Management" was held as part of the annual meeting of the Colonial Waterbird Society at the University of Mississippi in October. **David Nettleship** was the principle organizer. Invited and contributed papers are undergoing peer review and will be published as a supplemental issue of *Colonial Waterbirds*. This symposium was motivated by increasing concern over impacts of growing numbers of cormorants on sport fish and aquaculture operations. Hunting seasons on cormorants and/or anhingas have been proposed in several states. Abstracts of symposium papers were published in the December 1992 issue of the Colonial Waterbird Society Bulletin.

The Seattle meeting of the Pacific Seabird Group brought together workers interested in the population status of **Harlequin Ducks** nesting in inland areas of the Pacific Northwest and northern Rocky Mountains. Several participants were involved in a recent report on the "Status of Harlequin Ducks in North America," which reviews existing biological knowledge about the species and summarizes available data and ongoing work in individual states and provinces. One concern is continued hunting of Harlequin Ducks in the Pacific Flyway without adequate population data. The working group on Harlequin Ducks in Seattle asked the PSG Conservation Committee to send copies of the status report, which encompasses all North American populations of Harlequins, to the directors of the U.S. Fish and Wildlife Service and the Canadian Wildlife Service. A cover letter will request a status review for the eastern U.S. population and increased support for inventory, monitoring, and research in both the Atlantic and Pacific regions. **Ian Goudie** plans to organize a special session on seaducks at the next PSG meeting. This is an important initiative, as seaducks (especially scoters) are among the least studied of aquatic birds.

Bruce Pugesek of the National Wetlands Research Center of the U.S. Fish and Wildlife Service is continuing long-term demographic studies of **California Gulls** nesting at Bamforth Lake National Wildlife Refuge near Laramie, Wyoming. Both fledglings and adults have been banded here since 1958, and in the last decade Bruce has intensified this research. In cooperation with this long-term project, **Chris Nations** is doing his Master's research at the University of Wyoming on age-specific fecundity and survival of the gulls. Nests of known-age birds are monitored throughout the breeding season to determine fledging success. Chris will use the existing time series of data in model simulations to assess the sensitivity of population growth rate to survival and fecundity of this long-lived species.

Also at the University of Wyoming, **Scott Findholt** is making final revisions of his Ph.D. thesis on the foraging ecology of **White Pelicans** at Pathfinder Reservoir. As mentioned in earlier reports, a large colony of over 1,000 pairs of pelicans on an island in Pathfinder Reservoir was abandoned three years ago owing to low water levels from persistent drought. **Clayton Derby** is beginning his field work on **Double-crested Cormorants** nesting on Soda Lake near Casper. Clayton's Master's project under Jim Lovvorn will examine the impact of cormorant predation on trout stocked in the North Platte River. The initial focus will be on food habits, including comparison of the esophagus contents of adults collected at feeding sites with samples regurgitated by chicks at the colony. Data on time-activity budgets and reproductive parameters will be incorporated into a population energetics model to estimate the total consumption by cormorants of different species and size classes of fish.

At Utah State University, **Peter Paton** is beginning his fourth and final field season for his Ph.D. research on **Snowy Plovers** around Great Salt Lake. It appears that plovers using Great Salt Lake represent the largest concentration in North America. **Suzanne Fellows** is completing her Master's research on shorebird use of Great Salt Lake. **Pat White** of the Utah Division of Wildlife Resources is coordinating shorebird surveys of Great Salt Lake and other wetlands in northern Utah as part of efforts by the Point Reyes Bird Observatory to monitor shorebird use of wetlands throughout western North America. **Joe Banta**, Fish Springs National Wildlife Refuge, is constructing impoundments to create more shorebird foraging habitat. **Vickie Roy** of Bear River National Wildlife Refuge is conducting year-round monthly surveys of shorebirds and waterfowl on the refuge.

Jim Lovvorn

Washington D.C. Report

Daphne Gemmill

The environmental community is hopeful that a new Congress, President and Cabinet Secretaries will result in enactment by the 103rd Congress of the environmental work left from the 102nd Congress. The 102nd Congress produced a thin record of legislative achievement; its primary mark was in the foreign policy arena where Congress voted for war in the Persian Gulf and peace with Russia, along with foreign aid.

In the environmental arena, the 102nd Congress managed to pass seven bills of note. Lawmakers passed an energy bill that included provisions promoting energy conservation and development of alternative energy sources. Thankfully, the law does not permit oil drilling in the Arctic National Wildlife Refuge, an important breeding ground for waterfowl and shorebirds. They also passed a California water reform bill with far-ranging policy implications, one of which was diversion of water from the California Central Valley Project to wildlife habitats, as well as a transportation bill that included greater flexibility in use of funds by states for mass transit.

Four bills were of particular interest to people who care about birds—The Wild Bird Conservation Act; reauthorization of Title III of the Marine Protection, Research, and Sanctuaries Act, the National Maine Sanctuary Program; Partnerships for Wildlife Act; and the High Seas Driftnet Fisheries Enforcement Act.

1. The Wild Bird Conservation Act restricts trade in wild birds by immediately banning the import of 10 species most endangered by trade, all popular parrot species, and, after a year, all birds listed under the Convention on International Trade in Endangered Species (CITES) unless placed on an "approved list" established by the Secretary of Interior. Non-CITES birds could be imported unless the Interior Secretary determines a species is imperiled. Imports of wild-caught birds would still be allowed for scientific research, zoological display and cooperative captive-breeding programs.

2. The reauthorization of the National Marine Sanctuary Program included provisions designating the Stellwagen Bank Sanctuary off the coast of Massachusetts, creating a Humpback Whale Sanctuary in Hawaii off Kaho'olawe Island southwest of Maui, and banning oil and gas drilling in the future Olympic Coast Sanctuary, which would run from just north of Grays Harbor, Washington to the tip of the Olympic Peninsula. Under the existing law, the Executive Branch designated the following areas as National Marine Sanctuaries: Monterey Bay, the largest marine sanctuary to date and an important area for foraying and migratory seabirds; Florida Keys, the only complete tropical marine ecosystem in the United States; and Flower Gardens coral reefs off Galvaston, Texas. The responsible Federal agency, the National Oceanic and Atmospheric Administration, is reviewing the following for Sanctuary status: Kaho'olawe off Hawaii; Olympic Coast and Northern Puget Sound off the west coast, areas rich in seabirds including Leach's and Fork-tailed Storm-Petrels, Common Murre, Cassin's Auklet, Marbled and Ancient Murrelets, and Tufted Puffins; and Norfolk Canyon and Stellwagen Bank off the east coast that are prime feeding habitat for seabirds.

3. The Partners in Wildlife Act created a $19 million fund to augment state fish and wildlife conservation programs that benefit species not traditionally hunted or fished and not federally listed as threatened or endangered.

4. The High Seas Driftnet Fisheries Enforcement Act mandates sanctions against fish and fish products, and sport fishing equipment of those countries that refuse to stop driftnetting by December of 1992. If the sanctions are not successful, the President is authorized to impose additional sanctions on other exported goods from those countries, such as televisions, cars and clothing. In response to pressure from the U.S. Congress in conjunction with a United Nations resolution calling for an end to all driftnetting by the end of 1992, the three leading users, Japan, South Korea, and Taiwan, agreed to abide by the ban. France has agreed to shut down its Atlantic diftnet industry by the end of 1993. This is good news for seabirds! One 1990 estimate was that just 10% of Japan's driftnet fleet killed 30,464 seabirds and that the South Atlantic driftnet fisheries were threatening the Rockhopper Penguin colonies on Tristan de Cunha and Gough.

Top legislative issues affecting the well-being of seabirds and waders that were carried over from the last session are ancient forest protection; Endangered Species Act reauthorization; approval of international biodiversity, climate, and Antarctic treaties; coastal zone protection; wet-

lands and water usage; refuge reform; revisions to bird depredation program; and federal agency reorganization.

Ancient Forests

Legislation to protect ancient forest in Oregon, and Washington, critical for the Marbled Murrelet, came closer to reality in the 102nd Congress. Timely action in the 103rd Congress could provide permanent preservation of pockets of old-growth forests in Oregon, Washington, and northern California that will protect biodiversity, and funds for retraining timber workers and assisting communities. The environmental community is also pressing for a provision that would offer interim protection to the eastside forests that contain unique strands of ponderosa pine and are being logged at an even greater rate that the forests of the westside.

On April 2, 1993, a White House "forest" conference was held in Portland, Oregon to give scientists and representatives of various interests an opportunity to express their views and concerns regarding the management of the last 10% of the old growth forest. A team of government scientists and economists have been assigned to develop a strategy for managing the federal forest lands. their report, scheduled to be completed in June, is essential to form the basis for developing legislation. Conservationists throughout the country will be watching this process closely, as it is widely viewed as setting the precedent for how the new administration and the Congress will deal with reauthorization of the Endangered Species Act. Concern already is high that the administration's old growth scientific team has been instructed to limit their strategy to federal lands, yet the majority of habitat for the Marbled Murrelet along the coast of Washington and Oregon is on private or state-owned land.

Endangered Species Act Reauthorization

A major environmental debate in the 103rd Congress will center on the reauthorization of the Endangered Species Act. The continuing debate is on appropriate funding levels and speed in the listing process versus greater weight to certain economic considerations and compensation for impact on private lands.

The original Act, passed twenty years ago, has served as the cornerstone to preserve the unique biodiversity of the United States. Today the Act protects more than 700 species of plants and animals. The Act's many successes have been achieved with few major conflicts. In fact between 1979 and 1986, less than 1.0% of federal projects were cancelled due to endangered species.

In the last session, Congressmen Studds (D-MA) and Dingell (D- MI) cosponsored a bill that would have (i) established deadlines for developing and implementing recovery plans for threatened and endangered species, (ii) directed federal officials to list priorities for the development of recovery plans for entire ecosystems, instead of planning for single species, (iii) increased funding levels for chronically underfunded federal endangered species programs, and (iv) initiated a fund to help communities create plans to balance protection for endangered species with development. The introduction of an endangered species-related bill is expected early in the session.

A strong Endangered Species Act is essential for the protection of our unique heritage for future generations. Scientists estimate that some 9,000 plants and animals are currently at risk of becoming endangered. Much more remains to be accomplished.

International Treaties

The 1992 United Nations Conference on Environment and Development (UNCED) produced international biodiversity and climate treaties and linked protection of the environment with development and social issues. Congress is expected to ratify the climate change treaty that aims to stabilize or reduce worldwide output of carbon dioxide, the gas most responsible for global warming and the possible extinction of many species, if not whole ecosystems. The Clinton Administration is likely to sign the biodiversity pact, known as Agenda 21, a blueprint to help countries meet the challenges of environmental protection and sustainable economic development.

In 1991, the U.S.joined 38 other nations in signing an Antarctic Protocol that bans commercial mining, and creates measures to govern (i) waste disposal, (ii) marine pollution, (iii) protection of Antarctic plants and animals, and (iv) assessment of the environmental impacts of all activities in Antarctica. In October 1992, the Senate ratified the protocol. Legislation to implement the Protocol, the Antarctic Environmental Protection Protocol Act of 1992, was introduced late in the session by Representative Walter Jones (D-NC). In addition to the prohibition of dogs, the bill imposes a 50-year ban on mining in Antarctica; requires that all activities in Antarctic with more than minor impacts be preceded by an environmental impact assessment; requires proper disposal of all wastes; bans the discharge of oil, garbage, and other harmful substances from vessels operating in Antarctica; and provides additional protection for native plants and animals. This issue will be revisited in the 103rd Congress.

Coastal Protection

Hurricane Andrew and other natural disasters in 1992, strengthen the prospects for reform of National flood insurance and related programs that provide property insurance when private insurers will not. While some environmental groups would like to abolish flood insurance as a public subsidy supporting shorefront development, Congress is likely to take more modest steps to restrict coastal construction and limit federal government's exposure to insurance claims.

Senators John Kerry (D-MA) and Ben Erdeich (D-AL) will probably reintroduce their National Flood Insurance Reform Act. The bill strengthens the Flood Insurance Fund through improved lender compliance provisions, establishes programs for the reduction of flood losses and for the management of erosion-prone coastal areas, and recognizes and promotes the protection of natural floodplain areas, including wildlife habitat.

In the House of Representatives, Doug Bereuter (R-Neb) introduced a bill that is essentially a resubmission of legislation passed by the House in 1991 and 1992. His bill would increase the likelihood that property owners in flood- prone areas carried flood insurance and would not provide insurance to areas subject to erosion within the next ten years. This last provision alarms real estate interests and led to the bill's demise last year.

Wetlands and Water

This area requires careful watching for "economic stimulus" actions may translate to spending on waste water treatment plants, and reauthorization of the Clean Water Act may finally settle the definition of a wetland. The reauthorization of the Clean Water Act is important for maintaining swimmable, fishable, and drinkable waters that protect fish and wildlife and the health of vast ecosystems. A key section of this Act governs wetland protection. The debate over wetlands, a contentious issue during the Bush Administration with several efforts to open millions of acres to development, is expected to intensify in the coming year with a number of bills that would give greater protection as well as a number that would have the opposite effect.

Reintroduced from last session by Representative Don Edwards (D- CA) is the Wetlands Reform Act of 1993, H.R.350, supported by national environmental organizations. This bill would expand Section 404 governing the filling of wetlands to regulate the draining, flooding, and excavation of wetlands, and would create tax incentives to encourage protection of privately owned wetlands. It would make it tougher to develop wetlands, which are vital to waders and waterfowl. This bill will be debated in the context of the Clean Water Act reauthorization.

Refuge Reform

The 102nd Congress held hearings on Senator Bob Graham (D-FL) and Representative Gerry Studds' (D-MA) bill, the National Wildlife Refuge System Management and Policy Act, giving the Fish and Wildlife Service greater authority to exclude drilling, grazing, water skiing, and other incompatible uses from National Wildlife Refuges. A cited example of incompatible use is the Navy's sporadic bombing practice in the Copalis National Wildlife Refuge on the Washington coast in an area that includes small rocky islands used as resting areas by seabirds and haul- out areas by marine mammals, including the threatened Stellar's sea lion. Legislation on this topic is expected to be reintroduced in this session.

Bird Depredation Program

In 1990 approximately 18,645 herons, egrets cormorants, pelicans and other waterbirds were lawfully killed by fish farmers. Under a bird depredation program administered by the U.S. Fish and Wildlife Service, fish farmers can receive a permit to kill birds that are preying on fish in their ponds. With the phenomenal growth of the aquacultural industry, particularly in the Southeastern United States, shooting of birds has mushroomed. Efforts by Congress to phase out the permit program and fund a study of non-lethal means for excluding birds from aquaculture ponds were not successful but prospects look brighter in 1993.

Federal Agency Reorganization

President Bush's 1988 campaign promise to elevate the Environmental Protection Agency (EPA) to Cabinet status bogged done due to jurisdictional and substantive disputes. Renewed efforts are underway to elevate the EPA to Cabinet-level status. A new Department of the Environment would have equal standing with foreign environmental ministries and enhance environmental efforts within the United States. In addition, many esteemed think tanks and commissions recommended that other federal agencies, or subunits, be merged into this new Department. For example, the National Oceanic And Atmospheric Administration might be merged with the new Department. For the time being, the only bill introduced in the Senate, The Department of the Environment Act of 1993 (S.171), is for a simple elevation of EPA from an agency to a department. All other possible combinations are grist for inside-the-Beltway, power-lunch conversations.

1993 Annual Meeting

Seattle, Washington 9-13 February

The Twentieth Annual Meeting of the Pacific Seabird Group was held in Seattle from 9 - 13 February 1993 at the Westin Hotel in Seattle. The meeting was the largest the Group has ever held with 225 people registered and 75 papers presented. The meeting was preceded by a full day workshop of the Marbled Murrelet Technical Committee. The annual meeting included two symposia one on the Marbled Murrelet and one on the *Exxon Valdez* oil spill. The latter was followed by papers and discussions on the restoration options being considered for assisting with the recovery from the effects of the Exxon Valdez spill. At the time of the meeting the information on the effects of the spill was limited to that obtained by researchers working for the government. A mini-symposium on Harlequin Ducks was also held. Workshops on seabird data base management, monitoring, the Marbled Murrelet, Xantus' Murrelet, and Harlequin Duck were also held.

Two PSG members were honored at the banquet. Karl Kenyon was the recipient of the PSG's first LIfetime Achievement Award and Art Sowls received an Outstanding Achievement Award for his work on seabird colony catalogues over the past fifteen years. The next PSG Bulletin will contain articles on the two award recipients.

Social events included a reception at the Seattle Aquarium and an evening session with the Seattle Audubon Society that included slide presentations for the public on North Pacific seabirds. An auction of items contributed by P Two Russian ornithologists, Alexander Kondratyev and Lyubov Kondratyeva were able to attend the meeting due to generous assistance of Microsoft Corporation and private contributors. The local committee would like to thank the large number of people who volunteered their time and services to make the meeting a success.

1994 PSG Annual Meeting in Sacramento

The 1994 annual meeting of the Pacific Seabird Group will be held January 26 (Wednesday) through January 28 (Friday) at the Radisson Resort Hotel in Sacramento, California. Executive Council meetings will be held on Tuesday (25 Jan.) between 1000–1700 h. The Marbled Murrelet Technical Committee will probably meet on Tuesday also. As usual, registration and a welcoming reception will be held on Tuesday, general papers sessions will take place on Weds.–Fri., the banquet will be on Fri. night, and field trips will be arranged for Saturday.

With all the committees now active in PSG (a very healthy sign) meeting organization is getting rather complicated. There were some (good–natured) complaints about the 1993 meeting in Seattle going from Monday morning to Friday night and the large number of unscheduled (but important) committee group and subgroup meetings, etc., that frequently ran concurrently with each other or the paper sessions. We hope to streamline activities next year to avoid time conflicts. We recommend that those groups needing a large block of time for meetings (murrelets, seaducks?, monitoring?, etc.) **arrange in advance with members** to meet on Tuesday before the general sessions. We plan to devote all of Wednesday and Friday to paper sessions (0800–1700 h) and have poster presentations at night. Thursday morning will be for papers (0800–1200), while the afternoon (1300–1600) will be for committees to take care of unfinished business (or those that feel that a 3–hr session is adequate and do not need to meet on Tues.). After a break (1600–1800), the evening (1800–2200) will be devoted to a session for all members— to focus on conservation committee business, and include brief reports from all committees, closeout PSG business, member reports, etc.

Several symposia topics for the 1994 PSG meeting have been proposed. We throw them out now for feedback, and the final agenda will depend on response from members. Depending on the levels of interest, we could hold these symposia in 1994 or 1995. We use the term "symposia" loosely, and would be happy to see as few as 4–5 papers address a common theme. If you have any more suggestions, comments, or want to contribute to a particular symposia, let us know **relatively soon** by writing a note to, or phoning, John Piatt (1994 Program Chair, 907 786–3549) George Divoky (206 525–2131), or one of the contacts listed below. So far, suggested topics (in no particular order) include:

1) To commemorate the 150th Anniversary of the Extinction of the Great Auk, a symposium on "Behavior, Ecology, and Population Status of the Rare Alcids"

(Continued page 29)

Summary of Minutes of the Executive Council Meeting

The following is a summary of the proposed minutes of the Executive Council Meetings held on 9 and 11 February 1993 in Seattle Washington. Anyone interested in a complete transcript of the meetings should contact the secretary, Beth Flint. A quorum was present at both sessions with all council members present for at least one session except for Flint, Coulter, Siegel-Causey, Velarde, Ludwig, Tasker, and Clapp. Sekora held 5 proxy votes. The minutes of the 2 previous meetings of the council were approved.

Endowment Fund

Uncertainty about the rules governing allocation of money to and from the endowment fund and the role of the Liquid Assets Account prompted the Chair to ask the Treasurer to consult past minutes and treasurers and produce written guidelines. Divoky also requested that we formalize in written form, a statement of purpose for the Endowment Fund. Warheit consulted with Siegel-Causey and Chu and found that the Dean Witter U.S. Government Securities Fund is the Endowment Fund and the Dean Witter Liquid Assets is just a savings account. The total of our money in checking and in the Liquid Assets comes to approximately $13,000.00. Warheit moved that we move some of this money to the endowment fund. The motion was passed. The treasurer will decide how much to move based on what our expected operating costs for the coming year will be. Fry moved that we set up a committee to meet during the Seattle conference and present suggestions about the management of the Endowment Fund and set up guidelines for spending general donations for the membership to vote on at the business meeting. The motion was passed. Sekora charged Warheit with setting up the committee.

Hand passed out a summary of the Fund's performance and urged that we make strong fund-raising efforts for the next 3 years because money deposited earlier has a greater effect than that put in later. Hand proposed we start putting out our own publications using desk-top publishing techniques and the group briefly discussed the merits and disadvantages of this idea.

Membership

Warheit reported that some life members had not kept up with their payments and that he will calculate how long we can continue sending these people their Bulletin. He moved that a $3.00 increase in the regular annual dues rate be attached for payments that come in after 31 March each year. This motion was passed.

Editor's report and Bulletin business

Sekora read Springer's report to the council. Divoky reiterated his wish that we have a feature article of interest to seabird people in the beginning of each issue of the bulletin. Forsell suggested that we purchase a superdrive for the editor to allow her to handle alternate formats more easily. Divoky pointed out the need for a content editor to assist Springer. Leschner suggested that the chair-elect be given this associate editor's job. Warheit made the motion that the chair-elect be the chair of the bulletin committee and be associate editor for the time he is chair-elect. Motion passed.

Local Committee

Not as many people had registered thus far (185) as had been expected (250) so it was difficult to plan space and catering. Divoky suggested that we maintain a file with information from past meetings and a "checklist" to help local committees. Hand said there used to be such a thing. Sekora stated that until we have a permanent executive director it will continue to be a problem. There were 82 abstracts submitted but only 4 of them were student papers. Divoky raised the question of who will pay for excess room charges generated by pre-conference meetings. Fry was concerned about the length of the meeting and it was pointed out that the Colonial Waterbird Group had gone to concurrent sessions.

Bylaws

All those who returned ballots concerning the changes in the bylaws voted "yes" however only 33 people returned ballots. This is sufficient for passage according to the bylaws but additional voting will be allowed at the meeting until the business meeting. Warheit moved to bring the proposal to the membership that we change the bylaws so the chair elect, chair, and past chair on council each serve for 2 years instead of 1 year. Hand pointed out that the commitment would be increased by this change. Fry thinks the learning time involved for the job makes this a good idea. Divoky pointed out the difficulty in finding candidates and the loss of continuity when the chair changes so often. Leschner and Hand felt that the 3 past chairs should be following through and maintaining continuity. The motion passed 10 to 5. Warheit then moved to table the motion for the time being because 5 of the votes to pass the previous motion were proxies. This motion passed.

Elections

Forsell reported that there had been no contest for any of the positions. Warheit clarified that representatives

based on new regions will become effective at the 1994 meeting.

Marbled Murrelet Committee

Nelson reported that the main work of the committee for the year was the production of a survey protocol for land managers to conduct inland surveys prior to timer sales. The protocols were used by hundreds of people throughout the area last year. They are incorporating suggestions by users now. They also produced an educational video and a brochure about murrelets. The committee's structure is being revised to include land managers. Sekora asked that the council be allowed to review the new committee membership guidelines due to the sensitivity of the issues.

Carter commended Nelson for her work. She announced she had agreed to lead the committee for one more year. The 1987 Murrelet Symposium was published this year and the symposium being held at this meeting will also be published. Nelson proposed that PSG contribute $2000.00 plus $500.00 from the sale of the wine toward this publication. Fry suggested we try to publish this one by ourselves since it will be a big seller. Hand reminded the group that someone has to take the orders and mail out the publication. Warheit said that the treasurer cannot do that.

Seabird Monitoring Committee

Hatch pointed out report in Bulletin. The committee is still missing members from Mexico, Japan, and China. Good progress had been made on inventorying all seabird data for all past years in the Pacific from the equator north. This work should be done by the end of 1993. The ultimate focus will be on acquiring actual data which will help researchers detect patterns and provide a significant contribution.

PSG 2000 Committee

There was no activity of this committee this year. Warheit asked for and received permission to throw away the old survey forms from last year.

***Exxon Valdez* Restoration Advisory Group**

Sekora introduced Jim King who has been appointed to the advisory committee representing conservationists. King explained that there are 6 trustees that make all the decisions about the >900 million dollars that will be spent. Three members are appointed by the state of Alaska and 3 by the Federal government. There is also a public advisory committee that can submit recommendations and information to the trustees. Other interests represented on this 17 member committee are logging, commercial fishing, aquaculture, tour boat operators, native corporations, environmentalists, and the general public. It was proposed to spend $38 Million in the current year to fund continuing studies. A restoration plan is due out next month. There will be a 6 month public comment period in which it is important that PSG provides input. King reported that he had put forth the PSG's position that we place great importance on fox eradication. He provided a list of things that the PSG needs to do to help influence the process.

Fry brought up the problem of how things should be reviewed before they go out of the conservation committee as being the position of the PSG Further discussion of this issue was deferred until the meeting of the conservation committee.

Future Meetings

Nothing in Davis, California is available for the 1994 meeting so the Radisson in Sacramento was recommended. Tentative dates are 9 - 13 February. Sekora reported that the Colonial Waterbird Group would like to meet with the Pacific Seabird Group in 1995 and are willing to come to the west. San Diego has been suggested as a meeting site and it was agreed to proceed.

Victoria Symposium

The volume is due out in February of 1993. Warheit said he had not received any requests for mailing labels yet.

Ornithological Council

The Ornithological Council, a lobbying organization for ornithologists has invited PSG to become a member. Warheit moved that PSG join and pay up to $200.00 annually for dues. The motion was passed.

Marbled Murrelet Technical Committee Guidelines

The council reviewed the guidelines. Divoky moved that the guidelines by accepted and the motion was passed. Warheit asked that all officers be put on the murrelet mailing list. Everett mentioned that the same situation will apply for the Xantus Murrelet in the future. Harrison moved that we allocate $2500.00 to publishing the 1993 Murrelet Symposium and the motion was passed.

PSG Outreach

Hand reviewed the plan to develop a slide show for non-traditional audiences such as yacht clubs. Several years ago it almost came to fruition but the difficulties of finding people with enough time to carry these things through was made evident again. Divoky stated that past chairs should be responsible. Sekora thought a video format might be

more feasible and that it should be done by professionals. Several individuals were suggested and the need for PSG to be ready to fund if someone steps forward was discussed. Piatt suggested that members might be able to contribute good footage.

Financial Assistance to Foreign Members

Hatch called for a more formal method of sponsoring foreign members in developing countries because the loose structure of our attempt last year didn't work very well. He also proposed that we think about using money from the endowment fund when it matures to help people attend the meeting. Hand felt that this was appropriate. Interest from the endowment can be used even now as long as it hasn't been converted to capitol already. Fry pointed out that there might be other sources of money to tap as well.

PSG 2000, Seabird Monitoring

Hatch proposed creating a position complimentary to the Vice-chair for Conservation entitled Vice-chair for Research and Technical Coordination. It would require a change in the by-laws. Forsell thought the position should be appointed instead of elected. Harrison thought we should start it as a committee and then re-evaluate it in a year. Hatch accepted the chairs assignment to pursue the issue and see how far it can go.

Warheit asked to relieved of the job of by-laws chair after the new ones are finalized and put into effect in 1994.

Harrison moved to adjourn the meeting and the motion was passed.

Minutes respectfully submitted by Jim Lovvorn and Donna O'Daniel for Beth Flint, Secretary

1994 Meeting

(continued from page 26)

(*Synthliboramphus wumisuzume*, *S.*[*Endomychura*] *hypoleuca*, *S.*[*E.*] *craveri*, *Brachyramphus brevirostris*, *Cepphus carbo*, and *Aethia pygmaea*). There is already widespread interest and support for this symposium, which will hopefully include invited biologists from Japan, Russia, and Mexico. We are pursuing the possibility of publishing a selection of contributed papers in a refereed journal. Contact: John Piatt (907 786-3549) or Gus van Vliet (907 789-5624).

2) In light of apparent declines in the populations of a variety of seaducks in both the Pacific and Atlantic oceans, and a growing appreciation of their trophic importance in nearshore marine ecosystems, a symposium on "The Marine Ecology of Seaducks". Contact: Ian Goudie (604 946–8546) or Margaret Peterson (907 786-3530).

3) Considering the wealth of data available on some seabird species that are found in both the Pacific and Atlantic oceans, and which feed over a wide range of trophic levels (e.g., *Uria* spp., *Rissa tridactyla*, *Fulmarus glacialis*, *Oceanodroma leucorhoa*), a symposium on "The Comparative Marine Ecology of Pacific and Atlantic Seabirds". Contact: Tony Gaston (819 997–6121) or Scott Hatch (907 786-3529).

4) Are *Cepphus* guillemots overshadowed by their bigger *Uria* brothers, and overlooked because of our fascination with those frivolous *Fraterculids*? There's lots of great data on *Cepphus* so isn't it time for a symposium on "The Behavior and Ecology of *Cepphus* Guillemots". *Cepphus*oids assert yourselves, contact George Divoky.

5) With the recent profusion of molecular techniques for examining phylogenetic relationships and a vastly improved understanding of the paleo–ecology of marine ecosystems, it is probably a good time soon for a symposium on "The Paleo–Ecology and Evolution of Seabirds". (probably 1985) Contact: Ken Warheit (206 491–2046).

John Piatt, Chair Elect

Mark Your Calendar!

Deadlines for submittals to the PSG Bulletin are **15 April** for the spring issue and **15 October** for the fall issue. Please make a note of these dates and plan your regional reports and other articles accordingly.

Also, please submit all material to be published on 3.5-inch disks. No 5.25-inch floppies!

Treasurer's Report for 1991

Included in this report are two annotated tables detailing the financial activities of the Pacific Seabird Group during the 1992 calendar year. These tables summarize the 1992 cash flow activities of the group, as well as our total assets as of 31 December 1992. More detailed and additional financial information is discussed below.

Income

Our total gross income for 1992 was $18,403.49, forty-two percent of which was from membership dues ($7,756.35). The second greatest source of income for PSG during 1992 was interest generated from five accounts: Dean Witter U.S. Government Securities Trust Fund (Endowment) = $2,820.16; Dean Witter Liquid Assets Account (Savings Account) = $320.52; Puget Sound Savings Account (holding account for Author's page charges - North Pacific Symposium) = $194.54; PSG Bulletin Account = $35.03; and 1993 Local Committee Account = $4.51. Additional sources of income included $1,814 from Fund Raising ($852.00 from Art Sowls' Slide Exchange [see Footnote #2 in Cash Flow report for more details on slide exchange] and $962.00 from T-shirt and other sales, including those at the 1992 annual meeting) and $1,050.84 from donations (including one donation for $915.84 from a generous Life Member in Alaska).

Expenses

As with previous years, expenses associated with PSG publications were the primary expenses for the group. In 1992 PSG contributed $2,000.00 toward the Marbled Murrelet symposium volume, published through the Western Foundation of Vertebrate Zoology, $500.00 of which were Marbled Merlot profits donated to PSG (thanks again to Harry Carter). Pacific Seabird Group also contributed $1,815.00 for the publication of the North Pacific symposium. This volume was produced in April 1993 as a Special Publication of the Canadian Wildlife Service. Our total expenses during 1992 were $9,518.19, leaving us with a total income over expenses of $8,885.30.

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, 1992 members paid their dues over a period from late 1991 (when dues notices were first mailed) to fall 1992. Likewise, 1993 members paid their dues from December 1992 through Spring 1993 (and payments are still trickling in). Therefore, the membership dues presented in the 1992 cash flow report reflect both 1992 and 1993 memberships. As of 15 May 1993 our total paid membership was 412, of which 43 are Life Members paid in full, 5 are Life Members not paid in full, 337 are Individual Members, and 28 are Family Members. Of these 337 Individual Members 82 joined as a result of the 1993 Annual Meeting in Seattle. We encourage these members, and all other new members to continue their participation in PSG in years to come. Finally, 53 institutions worldwide receive the *PSG Bulletin*, of which 24 are paid subscriptions, 19 are journal exchanges, and 10 are goodwill gifts.

Endowment Fund

There was much talk concerning the endowment fund at our last Annual Meeting. The discussions centered mostly on three issues: (1) the purpose of the endowment fund; (2) the portion of the fund available for spending; and (3) when the money can be spent. Thanks mostly to Judith Hand, who originally proposed the endowment fund in 1983, these issues were clearly settled. The stated purpose of the endowment fund, currently invested in Dean Witter's U.S. Government Securities, is to sponsor and publish "quality seabird symposia." That is the sole function and stated purpose of the fund. In addition, the only money that can be spent from the endowment fund is investment income (i.e., interest); principal will remain invested for the purpose of generating additional investment income. Any investment income not spent or moved to a "Symposia Savings Account" will be reinvested as principal.

There are two governing bodies associated with the endowment fund. The first is responsible for the financial management of the fund (i.e., where and how the fund money is invested) and consists of the PSG Treasurer and two Investing Trustees, who must be Life Members of the Group and are appointed by the Executive Council. Craig Harrison and Doug Siegel-Causey are our current Investing Trustees. The second governing body is the Executive Council itself, which decides how the investment income will be spent (within the guidelines that the money is spent on sponsoring and publishing seabird symposia).

At this time the only new money placed into the fund are Life Membership dues and donations that are specifically designated by the donator as endowment fund. Other moneys (e.g., general donations not earmarked for a specific fund; general funds in excess of that needed to operate the organization) may be placed into this endowment fund only after a majority of the Executive Council members vote in favor of such activity. If money is donated to PSG for a stated purpose other than symposia (e.g., funding research or student travel) it cannot be deposited into the "Symposia Endowment Fund." This money will be managed in an

existing PSG savings account or placed in a newly established "Research" or "Travel" endowment fund, for example.

On 31 December 1992 PSG owned 4,056.692 shares in the Dean Witter U.S. Government Securities Fund. At $9.30 per share, our year-end 1992 Endowment Fund principal equaled $37,727.23. This was an increase of $3,526.37 over year-end 1991 ($34,200.86: 3,592.527 shares at $9.52 per share). $2,820.16 of the $3,526.37 increase was income dividend, giving us a yield of over 8 percent on our investment (during a period when the interest rates for savings accounts and CD's were no more than 5 percent, and many close to 3 percent). At this yield and without any additional investment, we would reach our target principal of $100,000.00 by the year 2005 - only 13 more years!

Annual Meeting

Lee Robinson did a magnificent job with the books for the 1993 Annual Meeting (Seattle). Her skills as a treasurer were evident as her final accounting for the cash flow related to this annual meeting were submitted to me only weeks after the end of the meeting. Many thanks to her, George Divoky, and Lora Leschner for putting on an enjoyable, scholarly, and profitable meeting. Our total income over expenses resulting from the annual meeting was $2,344.82. However, this number is somewhat deceiving because it includes moneys received during the meeting as donations, profits from sale of glassware and T-shirts, and membership dues for people registering as non-members. A more detailed look at our income and expenses resulting from the annual meeting is as follows (income and expenses for this meeting occurred during fiscal years 1992 and 1993, and therefore will be reflected in both this and next year's Treasurer's report):

CATEGORY	AMOUNT
Income	
Annual Meeting Income (excluding membership dues, donations,and retail sales)	$17,535.50
Donations collected during meeting	$ 1,748.00
Membership Dues collected during meeting	$ 1,215.00
Retail Sales	
Glassware sold prior to meeting as mail order	$ 703.63
Glassware sold during meeting	$ 178.00
T-shirts sold during meeting	$ 2,109.00
Total Income	$23,489.13
Expenses	
Annual Meeting Expenses (hotel, catering, field trips, office supplies, etc.)	$18,621.14
Retail Sales	
Glassware	$ 515.02
T-shirts	$ 2,008.15
Total Expenses	$21,144.31
Income over Expenses	
Annual Meeting	($1,085.64)
Donations	$ 1,748.00
Membership Dues	$ 1,215.00
Retail Sales	
Glassware	$ 366.61
T-shirts	$ 100.85
TOTAL	**$ 2,344.82**

As you can see, although the meeting was indeed profitable, our expenses for the meeting itself were over $1,000.00 more than our income from registration, field trips, etc. In other words, the 1993 Annual Meeting was subsidized by donations and profits from retail sales.

PACIFIC SEABIRD GROUP BALANCE SHEET
31 December 1992

Account	Balance 1992	Balance 1991
Assets		
1993 Local Committee	$ 2,579.85	-
Bulletin Account	$ 1,501.73	$ 818.09
Checking Account	$ 4,493.33	$ 2,237.48
[1] Pacific Symposium Account	$15,229.07	-
[2] United Kingdom Savings Account	$ 330.55	$ 153.65
Dean Witter - Savings	$ 7,347.02	$10,291.50
[3] Dean Witter - Endowment	$38,521.85	$34,200.85
[4] **Total Assets**	**$70,003.40**	**$47,701.57**
Liabilities & Equity		
Liabilities	$ 0.00	$ 0.00
Equity	$70,003.40	$49,097.41
[4] **Total Liabilities & Equity**	**$70,003.40**	**$49,097.41**

[1] The Pacific Symposium account was a holding account for page charges issued by the Canadian Wildlife Service for publication of "The status, ecology, and conservation of marine birds of the North Pacific." Funds in this account do not represent income to Pacific Seabird Group. $13,402.00 (equal to CAN$17,000) was transferred 14 January 1993 to CWS for the publication, while the remainder ($1,827.07) was transferred to the PSG checking account.

[2] 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 = £0.65 was used to calculate amount in dollars. The 1991 and 1992 closing balances equaled £99.87 and £214.86, respectively.

[3] 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 1992 we had 3,592.527 shares at $9.52 per share ($34,200.85). On 31 December 1992 we had 4,056.692 shares at $9.30 per share ($37,727.23). By 14 May 1993 the price per share had risen to $9.41 (4,056.692 at $9.41 equals $38,173.47).

[4] Because the Pacific Symposium account does not reflect actual income, total assets for PSG should be decreased by $13,402.00 (see Footnote #1). Therefore, a realistic estimate for our total assets and equity on 31 December 1992 would be $56,601.40, an increase of $7,503.99 over 31 December 1991 totals.

PACIFIC SEABIRD GROUP CASH FLOW REPORT

1 January - 31 December 1992

Income	
[1] 1993 Annual Meeting (as of 12/31/92)	$ 2,575.34
1992 Annual Meeting (Net)	$ 1,412.21
1991 Annual Meeting (remainder)	$ 250.00
Donations	$ 1,050.84
[2] Fund Raising	$ 1,814.00
[3] Gross Sales	$ 80.00
Interest Earned	$ 3,374.75
Membership Dues	$ 7,579.44
[4] Membership Dues (into UK account)	$ 176.91
Life Membership	$ 90.00
Total Income	**$18,403.49**
Expenses	
Awards	$ 130.00
Bank Charges	$ 132.08
Bulletin	$ 2,546.15
[5] Cost of Goods (Fund raising expenses)	$ 119.77
ICBP Dues	$ 200.00
Mailing-Stamps	$ 740.51
[1] 1993 Meeting Expense (as of 12/31/92)	$ 657.74
Officer's	$ 1,171.94
[6] Publication	$ 3,815.00
Taxes	$ 5.00
Total Expenses	**$ 9,518.19**
Total Income over Expenses	**$ 8,885.30**
Other "Income"	
[7] Page Charges Received (Symposium)	$15,034.53
[8] Transfer from Closed Accounts	$ 814.98
Total Other "Income"	$15,849.51
Overall Total	**$24,734.81**

[1] Includes only the 1992 income and expenses associated with the February 1993 Annual Meeting. See above for complete financial information about the 1993 Annual Meeting.

[2] Includes $852.00 from Art Sowls' Slide Exchange. According to Art Sowls' accounting, total 1992 sales of slides grossed $2,632.00, while expenses equaled $1,457.30. Therefore, the net profit for PSG resulting from the sale of slides in 1992 equaled $1,174.00. However, only $852.00 was received into PSG's accounts by 31 December 1992. The remaining $322.70 was received February 1993 and will appear in the 1993 accounting.

[3] Sales from back issues of bulletin

[4] See Balance Sheet Footnote #2.

[5] Fantasy Glass Works for etched glasses. Fund raising and 1993 Annual Meeting expenses.

[6] $2,000.00 to Western Foundation of Vertebrate Zoology for Marbled Murrelet symposium volume and $1,815.00 for North Pacific symposium volume (see Footnote #7 below and Balance Sheet Footnote #1).

[7] Page charges received by PSG for the North Pacific Symposium publication. Includes PSG's contribution of $1,815.00, transferred from checking account and Dean Witter Liquid Asset Fund. This money is not true income; $13,402.00 (equal to CAN$17,000) was transferred 14 January 1993 to CWS for symposium publication. Remainder ($1,827.07) was transferred back to PSG checking account (see Balance Sheet Footnote #1).

[8] Money transfer to PSG Treasurer's checking account from other PSG accounts (South Carolina Bulletin [Coulter] account [$382.80]; and Kansas Bulletin [Siegel-Causey] account [432.18]. Because this money was transferred from other PSG accounts, it is not income.