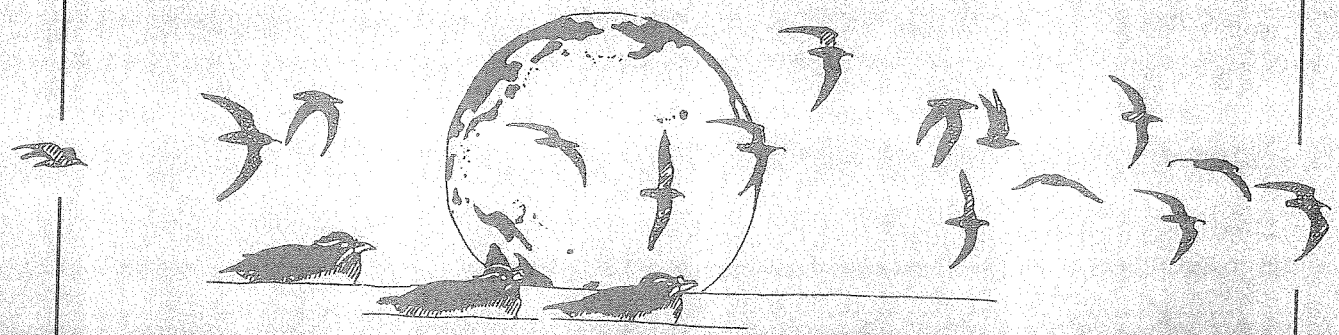
Pacific Seabird Group



BULLETIN

Volume 19 Number 1 1992

Pacific Seabird Group Bulletin

Dedicated to the study and conservation of Pacific seabirds and their environment

Volume 19 **1992** **Number 1**

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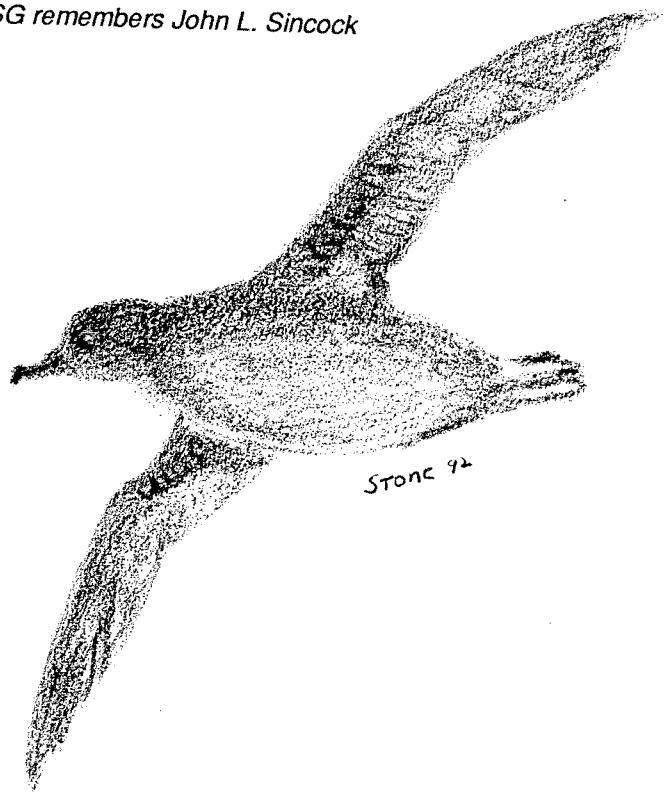


The Chair's Page

Excellent papers, posters, discussions, and committee meetings dominated the Charleston, Oregon annual meeting. You missed a good one if you weren't there. Don't miss the February 1993 Seattle meeting—it promises to be even better.

A renewed energy is coursing through this organization. You could see it and feel it at the Oregon meeting (and it wasn't all due to Harry's Marvelous Marbled Merlot). Attendance was much higher than normal, and participation at committee meetings resulted in good work and some new directions. Ken Warheit reported on the results of his questionnaire, which identified the strong interest in conservation by PSG members. Many thanks to Ken for undertaking a difficult and time consuming task! His fine analysis is our first real measure of the membership's interests.

If the phone calls, notes, and letters I have received in the month since the meeting are any indication of the general mood among PSG members, then I have to say that people are getting with it. Issues that members have shown an interest in include fisheries and land management, endangered species, the *Bulletin*, awards, new membership, the Seattle meeting, and the Exxon Valdez investigations. These and other critical issues need our input and, where appropriate, our backing. Nationally, we need to support the reauthorization of the Endangered Species Act, necessary funding under the Nongame Bill, enactment and funding of the Biodiversity Bill. We need to work at elevating the awareness, appreciation, and protection of marine birds at the federal, state, provincial, and local levels throughout the Pacific Rim area. But it's up to you. Much is going on, and we can do some good things—but we need more member participation. You have the knowledge and the information to bring about change. Get involved! You don't have to necessarily advocate, just get the information before the people who make the decisions.

PSG has benefitted greatly over the past six years from the efforts of Malcolm Coulter. As editor of the PSG *Bulletin* for five years and as Chair of the Executive Council, Malcolm did much to ensure the health of PSG as it approaches its twentieth year. On behalf of the entire group I would like to thank Malcolm for his efforts.

Remember—we can accomplish only that commensurate with the energy put into it! More energy—more accomplishments. Participate! Give the committee chairs, officers, and me a call.

Palmer Sekora

A Conservation Agenda for the 1990s: Removal of Alien Predator from Seabird Colonies

Craig S. Harrison

The Pacific Seabird Group can play a vital role in promoting seabird conservation by establishing proactive conservation programs. In the past, the Pacific Seabird Group has usually devoted its conservation resources to reacting to problems. As a major step in this new direction, the Pacific Seabird Group is developing an action plan to remove alien predators from colonies and former colonies where predators have caused or contributed to the decline of seabird populations. Many dedicated biologists and land managers have done an excellent, even heroic, job in removing predators from individual breeding islands. This work has proceeded by ad hoc, piece meal efforts and needs strong support from agencies and land owners on a comprehensive long-term basis because much has yet to be done.

The first step will be to identify the highest priority islands where rats, foxes and other introduced organisms should be removed in Alaska, British Columbia, Washington, Oregon, California, Hawaii and western Mexico. Once a priority list is created, the Pacific Seabird Group can work with land managers, helping to secure funding as necessary, to restore the natural biodiversity to the breeding islands. The action plan will establish a removal schedule with a goal of removing all predators within a decade. The Pacific Seabird Group will consider working with federal agencies to allow the use of toxicants for this purpose, even those such as 1080 that are currently banned. Armed with an action plan, the Pacific Seabird Group can influence funding and program decisions to insure the plan is implemented and island ecosystems are restored.

Funding and media attention with respect to seabirds during recent years have been directed toward driftnet fishing and the transportation of petroleum. These issues are certainly important to conserving Pacific seabirds. Patrick J. Gould, Douglas Johnson and Terry Shaffer estimate that the high seas driftnet fisheries in the North Pacific in 1990 drowned 416,000 birds. The *Exxon Valdez* disaster killed an estimated 350,000-390,000 seabirds. Large as these loses are, they are relatively minor compared to losses suffered from predators such as rats and foxes.

Predators occur on at least 59 islands in the Alaskan Maritime National Wildlife Refuge and depress the breeding population of seabirds in an amount equivalent to several *Exxon Valdez* oil spills each year. While an oil spill wreaks most of its havoc on seabirds in a single year, alien predators depress seabird populations year after year until they are removed. On the Hawaiian Islands National Wildlife Refuge, rats introduced during World War II on Midway have wiped out storm-petrels and Bulwer's Petrels, depleted Bonin Petrel populations and may even affect large seabirds such as Red-footed Boobies. Rats on Green Island, Kure Atoll, eat Sooty Storm-petrels (a potential endangered species) and even attack Laysan Albatrosses. The U.S. Coast Guard's LORAN station is being decommissioned there and Green Island's rats should be extirpated as part of that process.

There can be no doubt that alien predators devastate seabird colonies. After Kaligagan Island, Alaska, was stocked with foxes in 1921, its seabird population plunged so low that the renowned naturalist Olaus Murie recommended that it continue as a fox farm. In the 1980s, after foxes had died out, Kaligagan had 125,000 burrowing seabirds. Vern Byrd and Edgar Bailey found dramatic increases in bird populations after the Fish & Wildlife Service removed foxes from Nizki-Alaid Island, western Aleutians. Mark Rauzon's removal of cats from Jarvis Island, central Pacific, enabled blue-gray noddies and Christmas shearwaters to recolonize and populations of other species to increase dramatically.

The U.S. has entered into treaties that require it to make a good faith effort to remove predators from island ecosystems. The Western Hemisphere Convention provides a basis for the U.S. to provide funds to eliminate predators on seabird colonies in Mexico. The U.S.-Japan Migratory Bird Treaty requires the U.S. to take measures to control the introduction of live animals and plants which could disturb the ecological balance of unique island environments. The U.S.-U.S.S.R. treaty requires the U.S. to enhance the environment of migratory birds and to abate detrimental alteration of that environment. The federal government is negotiating with Russia concerning the establishment of international parks and refuges adjacent to the Bering Sea that would be jointly managed. By all means the U.S. should enter into new agreements to establish international parks and refuges in the North Pacific. In doing so, however, the government should not forget its unfulfilled commitments in the migratory bird treaties with Russia and Japan.

By establishing an action plan, the Pacific Seabird Group can highlight the importance of predator removal. The Fish & Wildlife Service's regional marine bird policy looks great on paper. Region 1 (Portland) intends to "remove all introduced predators from marine bird colonies on all National Wildlife Refuges and encourage their removal from all other colonies." The Pacific Seabird Group can insure that the policy is implemented in the field throughout the North Pacific.

ing Latin America, Pacific islands, Hawaii, New Zealand, Australia, and Japan. If the last region becomes too awkward or burdensome, it can easily be split into two regions. Although in the space provided here we cannot present the complete justification for this new alignment, we can say that it was based on a combination of factors, including the demographics of the society, the geographic distribution of its members, and the similarities in ecosystems and goals of particular regions (e.g., Alaska and Russia are not only geographically close, but share many ocean basins and seabird communities). These suggestions are not written in stone and will only go into effect after new bylaws are proposed and voted on by the general membership.

In addition to reducing and changing PSG's regions, we also recommended that requests for information from the members NOT be sent by individual Regional Representatives, but by the bulletin editor or secretary. In fact, this has already be implemented. This year, a pamphlet was sent by the new bulletin editor, Martha Springer, requesting members to initiate their contact with their Regional Representatives. The names and addresses of all Regional Representatives were listed on the pamphlet and members could choose where they send their information. This will reduce the responsibilities of the Regional Representatives to a more manageable load. The representatives are now responsible for making follow-up phone calls if they choose, for compiling membership information from their region, and for presenting this information to the *Bulletin* editor.

Finally, the committee recommended that only the immediate Past Chair serve on the Executive Council. This would reduce the number of years a chairperson would serve on the council from 5 years (Chair-elect, Chair, and 3 years of Past Chair) to 3 years. Prior to this and other changes there were 19 seats on the Executive Council (Chair-elect, Chair, 3 Past Chairs, Secretary, Treasurer, Bulletin Editor, and 11 Regional Representatives). By reducing the number of Regional Representatives to 8 (see above), eliminating 2 of the 3 Past Chairs, and adding the Vice-Chair for Conservation, the new Executive Council will consist of 15 seats. Although the Vice-Chair for Conservation has already been approved and implemented (Craig Harrison is PSG's first Vice-Chair), all other changes must be enacted as changes in the bylaws, and voted on by the general membership.

MEMBERSHIP AND FUND RAISING

Besides the structure of the Executive Council, membership and funds are the two other issues of vital importance to PSG. Ken Warheit has suggested in his review of the PSG survey that PSG should increase its efforts to recruit undergraduate and graduate students, particularly in the Pacific Northwest. Members at universities should help here, although relying on particular individuals to recruit new members in not a good idea. PSG could place ads in the *Auk*, *Condor*, *Wilson Bulletin*, *Journal of Field Ornithology*, bird journals in Europe, South Africa, Asia, *American Birds*, *Audubon*, *Wildlife Management*, etc. Another alternative is direct mail solicitations (with a sample Bulletin). This may be more cost effective than advertising in journals or magazines.

Increasing membership will increase our funds, but there are other ways to increase our general funds and endowment. We make the following suggestions and hope this will inspire more.

(1) Annual meeting registration fees for non-members should be increased by $10.00 beyond that paid by members For the additional $10.00, the non-member becomes a member, and will receive the Bulletin for that year. In the following years, that person will get billed at the appropri ate rate.
(2) Solicit funds from foundations or corporations.
(3) Solicit Life Members for contributions to the endowment fund.

COMMUNICATION

Problems with our internal communication are usually problems with individuals and not one of policy. So, we will leave this alone. However, PSG is confronted with how we should increase our communication with other seabird organizations, governments, non-government types, media, etc. There is much room for dialog here, and this should be the main topic of debate after we resolve our problems with organizational structure. We should investigate the means by which we could distribute information electronically (e.g., electronic bulletin board) because this will be one of the primary methods of communication in the very near future.

PLEASE SEND ANY COMMENTS CONCERNING THESE SUGGESTIONS TO KEN WARHEIT, 410 PEREGRINE DR. SE, OLYMPIA, WA 98503

California to Alaska accounts for 66% of our membership. As it stands now, each region has a 9% representation on the board (1/11). Thus, Alaska, B.C./Washington, and C. California are under-represented, while Mexico, Great Lakes, and Inland are over-represented. Oregon / N. California, S. California, Pacific, Northeast, and Southeast are about right.

Although only 151 of the 236 total responses answered the "Past Section" of the Geographic question, some trends are worth addressing. Direct comparisons with the "Current Section" are tenuous because the two sections are not independent, and while a person may have lived in a number of geographic regions in the past, s/he lives in only one geographic region in the present. Nevertheless, it appears that the basic geographic distribution of our current membership in the past was not drastically different from that of today. But there are some exceptions. Compared to the total geographic distribution of those members that responded to the survey, a higher relative number live in the Northeast, Pacific, and B.C./Washington regions today than they did in the past. This is also true, but to a lesser extent for Southern California. Conversely, a fewer number of current members live in Alaska, Oregon, and Northern California today than they did in the past. It is important to emphasize that these are the relative geographic distributions of our current members. In fact, if many past members from a particular region quit the organization this would not be reflected in this survey. In addition, although Oregon/N. California showed a relative decline based on our current membership, 40 percent of the 1988 cohort that responded to the survey currently live in Oregon or Northern California. Therefore, these trends are very general, but do reflect the fact that if our current members are going to move, chances are they will move to a coastal region with an active PSG membership. In other words, our current membership is not flocking in hoards to Kansas (or to Central California - which is curious).

Concerning the Annual Meeting question, I think it is pretty obvious that if we had an annual meeting east of the Sierra Nevada/Cascades, few people would attend. Our best bets are Central California to Washington or British Columbia, or possibly Southern California. Alaska, Mexico, and Hawaii are riskier (and more expensive to get to), but with good organization and/or a good symposium they may be do-able.

TAXONOMIC INTEREST

Alcids won the award for the most popular family of seabirds, followed by Procellariidae, Larinae, Phalacrocoracidae, and Sterninae. Clearly as an organization we like the Charadriiformes best, followed by Procellariiformes, Pelecaniformes, and Spheniscidae. In summary, we are a group that likes North Temperate - Subarctic - to Arctic seabirds that forage underwater [alcids, procellariids, phalacrocoracids]. The relatively poor showing for the rest of the Pelecaniformes reflects their more tropical distribution. Although unquestionably there are members who are only interested in tropical seabirds, for the most part the members of PSG prefer colder water (this can also be seen by the fact that more members are interested in penguins then tropicbirds and frigatebirds).

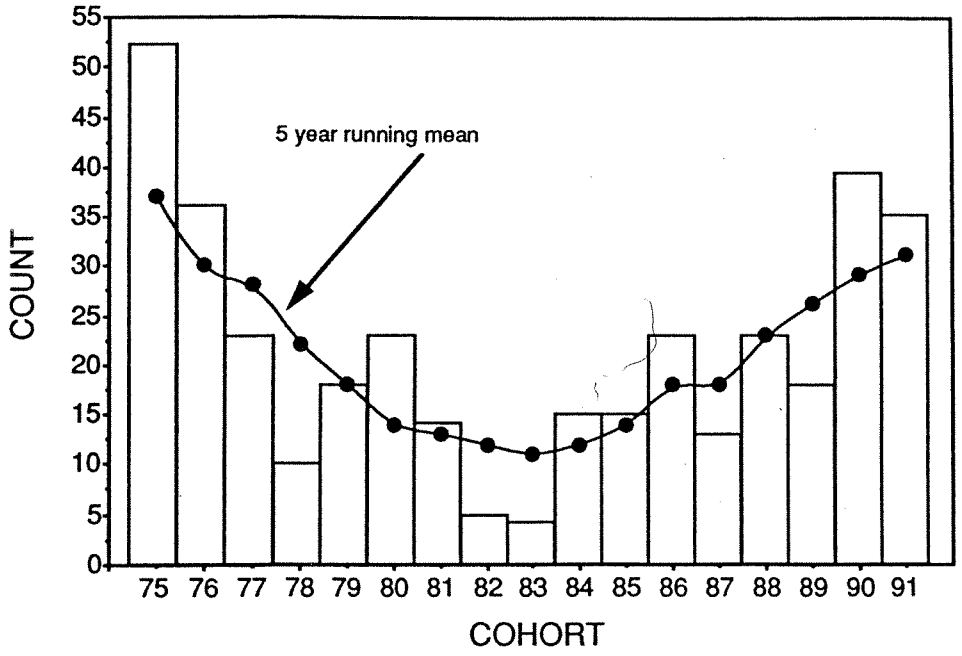
Write-in candidates included, in decreasing popularity, "shorebirds" (all other charadriiforms), waterfowl (Anatidae), Gaviidae, Falconiformes, Podicipedidae, Ardeidae, and *Anhinga*. One person responded that they have a "nonspecific" taxonomic interest, and another person likes some taxon called "General."

OCCUPATION

We are, and have been, an organization composed of government employees, university professors and graduate students, and private contractors. However, the number of private contractors or people working for private organizations has dramatically increased over the years. In addition, there are no undergraduate students in our current membership, while 78 of the 235 responders currently work in universities as professors or graduate student. Clearly if we want to increase our membership, undergraduate students are an untapped resource (and at $15.00 per year, PSG is affordable).

The trends in occupations of our current membership are revealing. The increase in private contractors and people working for private organizations, appears to be the result of a shift in the occupation of established PSG members, rather than a recent recruitment of new members. Many former Federal Government employees and graduate students have moved into the private sector rather than into government or university positions. This is less true for university professors, most of whom remained university professors, or retired and became "others." Graduate students equally become federal government employees, university professors or staff, private contractors/organizations, or older (emeritus?) graduate students.

What this section of the survey shows is that a portion of the PSG membership (government employees and graduate students) is flexible in their occupation goals. It also means that it is through graduate students (and current private contractors) that we have our best chance of



According to the above table and graph, PSG is generally represented by older and younger cohorts. That is, our current membership either joined in the late seventies or late eighties / early nineties. 1982 and 1983 were our worst years for recruitment (or, the people that joined in these years quit the organization prior to 1990), with 1978 and 1981 not far behind. Thereafter we have had increasing membership, except for 1987 - a very strange year.

The geographic distribution of the cohorts does not reveal any striking pattern, with the exception that most of our recruiting is from Central California to British Columbia / Washington State (with a few good years in Alaska and Southern California; and one good year in the Pacific). 1975 and 1990 ranked 1 and 2 in cohort size; however, the current geographic distribution of the 1975 cohort is more widespread than that of 1990. In fact, nearly 50 percent of the 1990 cohort lives in British Columbia / Washington State, which suggests to me that we should focus on this region for new members.

Our preference for the Alcidae, Procellariidae, and Phalacrocoracidae (in that order) can also be seen in the taxonomic interests for each cohort. Because of the high profile of Marbled Murrelets in the late 80's, I was expecting an increase in the percentage of people who were interested in the Alcidae among the younger cohorts. This did not occur because our interest in the Alcidae was always high. In fact, 1987 was the only year in which the Alcidae did not have the highest or second highest percentage. Strangely, the Sulidae took second prize that year, behind the Procellariidae. What's even more strange is that the geographic distribution of this cohort is generally in areas where there are no Recent sulids (Alaska, Central California, Great Lakes, and Southern California). In addition to the alcids, procellariids, and cormorants, there was also a moderate amount of interest for the Laridae, but this occurred only in the 1977, 1980, and 1991 cohorts.

One point of interest is that in a very rough sense, our recruitment is somewhat tied to our interest in the Alcidae. In our worst recruitment years, those people that did join do not appear to have an overwhelming interest in alcids. If you pool together our seven worst years (1978, 1981-1985, 1987), and compare percentages with our 10 best years, you get the following results:

	Good Years	Bad Years
Procellariidae	57%	81%
Alcidae	72%	62%

By maintaining the Alcidae as a high profile taxon either in research or conservation (e.g., Marbled Murrelets), we may stand a better chance of recruiting more members than if we switch our collective focus to procellariids or have a symposium (investing lots of time and money) on the status and conservation of cormorants. That is not to say that these taxa are not interesting, or we should not have a symposium on cormorants. But if there were no funds to do research on alcids, and Marbled Murrelets were no longer a hot research/conservation/political subject, we may experience a decline in recruitment or even a decline in membership. That's a guess.

There are no surprises in the occupations of specific cohorts. Generally, university or college professors and federal employees dominate most cohorts, followed closely be private sector people and graduate students. However, there is a marked difference in the distribution of these occupations among cohorts. The older cohorts are generally divided among federal workers, professors, and the

SUMMARY SHEET - Running Totals (counts) for all Fields

Total Number of Responses 236

Total N for category:	236	151	236

GEOGRAPHIC (see footnotes for explanation)	Current	Past①	Meeting②
Alaska	54	41	44
British Columbia / Washington State	59	25	21
Oregon - Northern California	29	25	21
Central California	62	41	27
Southern California	37	19	31
Mexico / Latin America	8	8	57
Pacific (Hawaii, South Pacific, Asia)	27	11	59
Great Lakes (US & Canada boarding lakes)	20	9	95
Inland **(and all other regions)**	17	15	88
Northeast (Maritime Canada, N. England, Eur.)	28	12	86
Southeast (States south of CT; includes Africa)	25	18	99

① PSG regions where you lived in the past (while being a PSG member). Please list in chronological order with 1 = oldest address (i.e., address when first joined PSG).

② PSG regions where you would NOT attend an annual meeting. More than one region is acceptable. CROSS OUT ALL REGIONS IF YOU HAVE NO INTEREST IN ATTENDING ANY ANNUAL MEETING.

225

TAXONOMIC INTEREST Number from 1 to 5 the five groups in which you are most interested (1 = most interested). Interest can include research, management, or conservation		
Spheniscidae	40	
Diomedeidae	70	
Procellariidae	140	2
Oceanitidae	61	
Phaethontidae	31	
Fregatidae	30	
Pelecanidae	55	
Sulidae	69	
Phalacrocoracidae	100	4
Chionidinae	15	
Stercorariinae	33	
Larinae	124	3
Sterninae	93	5
Alcidae	156	1
Other ( )	36	

Total N for category:	235	222

OCCUPATION:	Current	First Joined PSG
Federal Government Employee	58	65
State / Local Govern. Employee	19	9
University Professor or Staff	55	43
Museum Curator or Staff	18	8
Graduate / Postdoctoral Student	23	54
Undergraduate Student	0	12
Private Contractor / organization	44	19
Educator (e.g., H.S. Teacher)	3	0
Conservation Organization	14	11
Other (Specify:)	29	10

Total N for category:	233	187

AREAS OF INTEREST (if more than one, number in order of preference with 1 = most important)	Current	First Joined PSG
Ecological Research	190	142
Behavioral Research	89	61
Biogeographic Research	80	46
Systematic/Organismal Research	49	22
Conservation Biology	153	87
Marbled Murrelets	36	15
Exxon Oil Spill	33	7
Other (Specify:)	25	11
Conservation Advocacy	80	39
Management / Administration	55	23

Directions or goals PSG should move toward over the next 10 years (use additional sheets if necessary)

Conservation	89	Membership	17
Research	54	Colonial Waterbird Society	7
Communication - General	43	Realignment of Regions	4
Communication - Bulletin	14		
Communication - Journal	20		
Communication - Annual Meeting	10		
	87	**Total N for category:**	136

Alaska

(The names of various institutions are abbreviated in this report as follows: Alaska Maritime National Wildlife Refuge (AMNWR), the U.S. Fish and Wildlife Migratory Bird Management unit (MBM), the Alaska Fish and Wildlife Research Center (AFWRC), the University of Alaska (UAF), and University of Washington (UW).

Colony studies took place throughout the state in 1991. **Murre and Black-legged kittiwake** populations and productivity were monitored for the tenth season at Cape Thompson (Chukchi Sea), for the seventeenth season at Bluff (Norton Sound), and during an abbreviated season on St. Matthew Island (Bering Sea). These species, as well as **Least and Crested Auklets,** were also monitored on Little Diomede Island (Bering Strait). These studies, jointly funded by the U.S. Fish and Wildlife Service and Minerals Management Service, were coordinated by **Vivian Mendenhall** and **Dave Irons** (MBM); field leaders were **Mike Nishimoto** (AMNWR), **Ed Murphy** (UAF), **Art Sowls** (AMNWR), and **Dave Irons/Ada Fowler** (MBM).

The studies at Little Diomede Island were unique in two respects: land-based plots were established for estimating murre, kittiwake and auklet populations and productivity for the first time, and Russian scientists were involved in several of the studies. The FWS team on shore (MBM) was assisted by **Victor Zubakin** and **Nikolai Konukhov** in efforts to census auklets; these two also were refining a method to more accurately estimate auklet populations while FWS censused the island's murre and kittiwake populations, and those of Fairway Rock, by boat. The FWS vessel "Tiglax" arrived in July with **Alexander Kitaiskiy, Alexy Pinchuk, Alexander Kondratiev,** and **Eugene Panov.** The latter two accompanied Zubakin and Konukhov to adjacent Big Diomede Island where a census of that island's seabird populations was carried out. Meanwhile Kitaiskiy and Pinchuk assisted **John Piatt** (AFWRC) and other FWS personnel with an extensive series of pelagic transects that included seabird censuses, temperature-salinity, and plankton tow/hydroacoustic scans to determine prey abundance, in both U.S. and Russian waters.

Scott Hatch (AFWRC) continued his investigation of **Black-legged Kittiwake** winter survival, mortality factors, energetics and productivity at Middleton Island in the Gulf of Alaska, where this species suffered a probable food related die-off this year. Also at Middleton, **Brian Fadely** (AFWRC) studied cormorant, kittiwake and gull foraging habits and nestling diets. **Dee Boersma** (UW) monitored storm-petrel and puffin populations on the Barren Islands (Gulf of Alaska), especially food limitation of nestling growth using food supplement experiments. **Dave Nysewander** (AMNWR) continued *Exxon-Valdez* oil spill damage assessment studies, emphasizing murre population trends and productivity, at the Barren, Chiswell, and Semidi Islands (Gulf of Alaska). **Dave Irons** (MBM) continued his studies of kittiwake reproductive success, including foraging sites and brood reduction, in Prince William Sound. Also in the Sound, **Greg Golet** (UC-Santa Cruz) initiated a Master's project concerning kittiwake reproductive energetics. **Vern Byrd** (AMNWR) continued monitoring kittiwake and murre population trends and productivity on Agattu and Buldir Islands (Aleutians), productivity of four auklet species on Buldir, and nesting distribution and density of **Tufted Puffins** on Buldir in relation to the 1988 high seas gillnet ban. **Lisa Haggblom** (Togiak NWR) monitored kittiwake, murre, and cormorant population trends, productivity and food habits at Cape Peirce and vicinity (Bristol Bay). **Art Sowls** and **Laurie Fairchild** (AMNWR) continued monitoring murre and kittiwake population trends and productivity at St. George Island (Pribilof Is.), and began a program of banding **Red-legged Kittiwakes.** In view of evidence for high predation rates at several Alaskan colonies, **Ed Murphy** (UAF) began a project to quantify raven and gull predation of murre eggs and nestlings at Bluff.

Other studies in 1991 included pelagic work at Little Diomede by **John Piatt** (AFWRC). Piatt also coordinated a multi-agency at-sea survey of **Marbled** and **Kittlitz's Murrelets** in southeast Alaska, and continued studies of puffin diets in the western Gulf of Alaska and eastern Aleutians, including hydroacoustic surveys for prey distribution. As part of an *Exxon-Valdez* oil spill restoration study, **Kathy Kuletz** (MBM) headed an effort to find **Marbled Murrelet** nests and evaluate habitat in Prince William Sound—four nests were discovered. **Steve Klosiewski** (MBM) converted the Alaska Seabird Colony Catalog and the Pelagic Seabird Database to PC format. **Ed Bailey** (AMNWR) continued the fox removal project on several islands of the Andreanof, Delarof and Four Mountains island groups in the central Aleutians; counts on islands previously cleared indicate some recovery has taken place. **Chris Dau** (Izembek NWR) initiated studies of the declining **Steller's Eider** seasonal distribution and abundance on the Alaska Peninsula. **Dirk Derksen** and **Dave Ward** continued studies of migration patterns and winter distribution in Mexico of **Black Brant** banded in Canada, Alaska and on Wrangel Island.

The Fourth Alaska Bird Conference and Workshop, sponsored by the U.S. Fish and Wildlife Service, took place in Anchorage 19-22 November, 1991. The scientific committee was chaired jointly by **Dirk Derksen** and **Bob Gill** (AFWRC). Following a plenary session focussing on shared avian resources of Beringia (a substantial contingent of Russians was able to attend), where topics included status, biogeography, ecology, and evolution of waterfowl, shorebirds, seabirds, raptors and passerines; specific ses-

Washington / British Columbia

Alan Burger and **Irene Manley** of the University of Victoria are conducting research on the nesting behavior of **Marbled Murrelets** on southern Vancouver Island. They will be monitoring behavior and flight activities and searching for nests in the Carmanah Valley and adjacent watersheds, and working with Parks Canda on pelagic surveys in Pacific Rim National Park. Burger is also involved in studies using time-at-depth recorders to look at diving depths in **Rhinoceros Auklets, Cassin's Auklets,** and other alcids, and studies of the persistence of seabird carcasses on beaches and the buoyancy of oiled seabirds. This work, which should improve assessments of mortality following oil spills, is a follow-up study of the *Nestucca* oil spill of 1988-89. Burger is also working with the British Columbia Ministry of Environment on systematic beached bird surveys at over 35 sites in British Columbia.

Kees Vermeer of the Canadian Wildlife Service conducted studies of **Pigeon Guillemot** colony attendance and breeding biology in British Columbia in 1991.

Mary Mahaffey (USFWS Olympia) is developing a project as as part of the Puget Sound Ambient Monitoring Program that will measure pollutants in the tissues of **Pigeon Guillemots** and possibly **Surf Scoters.**

The National Marine Fisheries Service has contracted with the Washington State Department of Wildlife and the Oregon State Department of Fish and Game to study seabird and marine mammal mortality related to the Columbia River gill net fishery. **Steve Jeffries** is the project leader for Washington.

Ulrich Wilson (USFWS) of the Nisqually Refuge will be conducting breeding bird surveys of seabird colonies on the outer coast of Washington as well in the Strait of Juan de Fuca on Protection and Smith Islands. Ulrich will also be conducting a **Brown Pelican** survey of the outer coast in Washington beginning in October. Ulrich wil census brant and other waterfowl in the Strait of Juan de Fuca. USFWS biologist **Mike McMinn** will be surveying the San Juan Islands for breeding seabirds.

The **Laskeek Bay Conservation Society** is cooperating with **Tony Gaston** of the Canadian Wildlife Service to monitor population trends in the marine birds of the Queen Charlotte Islands; especially **Ancient Murrelets, Cassin's Auklets,** and **Black Oystercatchers.** They are working on developing methods of population monitoring that minimize disturbance to breeding birds as well as on developing a program of conservation education. A summer field station is maintained by volunteers. Those wanting more information or desiring to assist the society should contact the Laskeek Bay Conservation Society, Box 867, Queen Charlotte City, BC V0T 1S0.

Terry Wahl (Bellingham, WA) continues to gather and analyze data on interannual variation in seabird occurrence off the Washington coast. This will be the 21st year of pelagic surveys. Fall migration trips are conducted almost every weekend from mid-July to mid-October and anyone wanting to make a reservation for one of the charters ($59 per person) should contact Terry at 206-733-8255. **Jean Cross** (Monroe, WA) has completed her surveys near Mt. Pilchuk, in eastern Puget Sound, on the patterns of **Marbled Murrelet** occurrence in nesting areas during the nonbreeding season. A report has been submitted to the Washington Department of Game.

The area west of Washington's Olympic Peninsula was the scene of a major oil spill this past summer when the 610-foot Chinese freighter, *Tuo Hai* collided with the 365-foot Japanese factory ship, *Tenyo Maru.* The two vessels were maneuvering in fog-enshrouded waters at the western end of the Strait of Juan de Fuca on 22 June when the Chinese vessel failed to respond to radio messages from the Canadian Coast Guard and rammed the fish processor. The *Tenyo Maru*'s hull was ruptured and the vessel sank almost immediately in 500 feet of water 22 miles northwest of Cape Flattery, the northwestern tip of the Olympic Peninsula. An estimated 350,000 gallons of diesel and fuel oil were on the ship and over the next five weeks the oil escaped from the submerged vessel creating an oil slick that extended as far south as Oregon. Half of the beaches on the Olympic National Park were oiled and a number of them were closed to the public. At one time the spill threatened the spring shorebird staging areas on the southern Washington coast.

The spill occurred at a time when **Common Murre** chicks were fledging from Washington colonies and murres from Oregon were moving north into Washington waters. Of the 4300 birds recovered in the wake of the spill, 3100 were murres and 900 of those were young of the year. Local television crews were able to obtain mesmerizing videotape of oiled murre chicks sitting on the beach attended by parents attempting to entice them into the water. Even before the spill, the decreasing number of murres breeding in the state was cause for concern. Washington's breeding murre population has declined from over 30,000 in the early 1980s to a current estimate of 4000 individuals.

The Strait of Juan de Fuca has extensive fishing vessel and freighter traffic and the incident in the summer of 1991 demonstrates that major oiling of marine habitats can occur even in the absence of oil transport vessels. Much of the area affected by the spill is being considered for inclusion in the proposed Olympic Coast Marine Sanctuary. NOAA has conducted hearings on boundary and regulatory alternatives for the sanctuary. The largest boundary alternative would enclose 4400 square nautical miles and extend from the Canadian border to the Columbia River. The government's preferred regulatory alternative would prohibit oil, gas, and mineral exploration, development, and

chemical analyses. This summer will be spent evaluating data and writing reports. Contact **Carol Shuler** or **Elizabeth Materna** (503) 231-6179.

Reproductive biology of **Leach's Storm-Petrels** on Saddle Rock, Oregon Islands National Wildlife Refuge will be the focus of a continuing long-term study conducted by **Robert L. Pitman**. Pitman began banding of storm-petrels on Saddle Rock in 1979 and has continued annually. To date a total of 5,472 birds have been banded, including 2,625 adults, 2,725 Chicks and 122 recaptures. Food habits information is currently being analyzed.

Range Bayer is currently analyzing seawatch data he collected in the early 1980s and **Robert Loeffel** is continuing his long-term beached bird mortality study south of Newport, Oregon. This study is now in the 15th year.

Tillamook Lighthouse Rock is one of the very few rocks in Oregon that is not within Oregon Islands National Wildlife Refuge (NWR). When the rock was abandoned as an active lighthouse by the U.S. Coast Guard in 1957, it was considered excess property of the government and was sold to a private individual. Ownership of the lighthouse changed hands several times over a 20-year period, but the facility was left to deteriorate and it was during this period that seabirds began to reclaim this rock as a breeding colony. Currently, the lighthouse and rock is owned by a corporation known as Eternity At Sea and is operated as a commercial columbarium. To date, urns containing the cremated remains of only about a dozen humans have been placed in the lighthouse but plans are to ultimately place the remains of over 300,000 people there. Recent photographic surveys of the seabird colony at the rock indicate that about 400 **Brandt's Cormorants** and more than 8,000 **Common Murres** nest there, or about twice as many murres as breed in all of Washington!

Because Tillamook Lighthouse Rock is now an important seabird breeding colony, the U.S. Fish and Wildlife Service (USFWS) has initiated efforts to include this rock within Oregon islands National Wildlife Refuge. The owners of the rock were approached but were not interested in selling because of the investments they have made and because of the economic gain they expect to realize. However, since the owners are conservationists they liked the idea of placing the rock under the protection of the refuge, and they felt this would also be a selling point to potential clients.

It appears now that Tillamook Lighthouse and Rock will become part of Oregon Islands NWR under terms of a conservation easement currently being finalized. Within the terms of the easement, Eternity At Sea will retain ownership of the rock and operate the facility as a columbarium. They also will fund and perform all maintenance and preservation of the historic structures on the rock, and they have agreed that no one will be allowed on the rock during the seabird nesting season between April and August. All work and placement of urns on the rock will be done during the September-March period. The USFWS will restrict access to the island, assist with any trespass problems, and continue to survey the nesting seabird populations there. The USFWS has also agreed to erect a high quality interpretative sign on the adjacent mainland in Ecola State Park that describes the history of Tillamook Lighthouse Rock, the importance of the rock to nesting seabirds, the private/government partnership in protecting the rock, and the current use of the rock. Oregon State Parks has agreed to maintain the sign. The USFWS will also assist the owners in seeking National Historic Landmark designation of this famous rock and lighthouse. The easement will be in perpetuity, and a $1.00 fee will be paid for the easement.

The USFWS is also in the process of attempting to add **Pirates Cove Rock** to Oregon Islands NWR by conservation easement. This small, privately owned rock located near Depoe Bay serves as a nesting colony for **Western Gulls, Pelagic Cormorants,** and **Black Oystercatchers.** The rock is separated from the mainland by a narrow surge channel that is barely passable at low tide. The owners, Holiday RV Park, want to protect the rock and put it within the refuge because they would like to reduce their property taxes and because tourists staying at their facility enjoy viewing the wildlife associated with the rock. The state currently classifies the rock as useable open space RV property and taxes them for it accordingly. In the past, fishermen trespassing on the rock have occasionally become stranded at high tide, requiring rescue by the U.S. Coast Guard. Once in the refuge, however, the rock will be posted closed and trespassers prosecuted. With the conservation easement in place the owners will be taxed at a much lower rate and will receive assistance in protecting the rock. USFWS will, in turn, be guaranteed that no development or human activity will be allowed on the rock which would disturb nesting seabirds. There will be a $1.00 fee for the easement.

During the past year, USFWS and the U.S. Coast Guard have been discussing the fate of **Cape Arago Lighthouse** on **Gregory Point Rock**. Oregon Coastal Refuges personnel learned from locals that the Coast Guard was considering locating a heliport on the rock to service the lighthouse. Apparently the footbridge to the rock has been condemned and will cost more than $500,000 to rebuild. There was immediate concern because the rock itself is an

seabirds. Students will record the seasonal occurrence of beachcast birds and relate this data to oceanographic data. Secondarily they will look at causes of death as part of a long-term monitoring project for the upcoming Monterey Bay Sanctuary.

Nancy Naslund continues her work on **Marbled Murrelets** in the Santa Cruz Mountains and in Alaska. She is working on her thesis through the University of California, Santa Cruz.

Harry Ohlendorf works as an Environmental Scientist for CH2M HILL (3840 Rosin Court, Suite 110, Sacramento, CA 95834). He continues to specialize in wildlife toxicology with a special interest in the effects of contaminants on aquatic birds. He is also working on projects related to broader issues of wetlands, environmental enhancement, and risk assessments.

Bill Sydeman has recently been named the Acting Research Director for the Farallon program for the Point Reyes Bird Observatory. **Bill Sydeman, Peter Pyle,** and **David Ainley** of PRBO continue to monitor breeding seabirds at the Farallon Islands NWR. They are doing demographic studies on **Western Gulls, Brandt's Cormorants, Cassin's Auklets,** and **Common Murres** (reprints of two **Western Gull** studies and a **Cassin's Auklet** study are currently available). Sydeman, Pyle, and Ainley are also conducting a study on diet, foraging behavior, and reproductive success in **Pigeon Guillemots** and **Rhinoceros Auklets,** as well as a study to determine whether **Western Gull** interference or predation prohibits colony formation by **Cassin's Auklets.** Winter attendance by **Common Murres** and **Western Gulls** is being investigated. **David Ainley, Larry Spear,** and **Bill Sydeman** continue to investigate pelagic distribution of seabirds in relation to prey in central California, in conjunction with the National Marine Fisheries Service. They are investigating the distribution of seabirds and marine mammals in the Gulf of the Farallones using GIS techniques. This 2-year EPA contract study will be used to evaluate potential ocean dredge disposal sites.

Gary Page, Lynne Stenzel, Dave Shuford, and **Janet Kjelmyr** continue a shorebird ecology project, coordinating spring and fall shorebird surveys in coastal and interior wetlands of all states west of the Rocky Mountains. Staff and research associates continue to monitor breeding success and juvenile dispersal of **Snowy Plovers** along Monterey Bay. They are also conducting winter population surveys along the west coast, including Baja California (note: any **Snowy Plover** sightings from Baja would be gratefully received). **John and Ricky Warriner** and **Gary Page** are participating in a project to protect plover nests from mammalian (red fox) predation using predator exclosures (see under USFWS - SFBNWR).

In San Francisco Bay, **Gary Page, Lynne Stenzel, Dave Shuford,** and **Janet Kjelmyr** are investigating habitat use by shorebirds.

Jan Dierks, Gary Page, and **Dave Shuford** continue to study the population size and breeding success of **California Gulls** at Mono Lake.

In other areas, **David Ainley** and **Bill Fraser,** Old Dominion University of Virginia, are assessing the impacts of the oil spill resulting from the sinking of the Bahia Paraiso at Palmer Station, Antarctica. **David Ainley, Larry Spear,** and **Chris Ribic,** EPA in Corvallis, Oregon, continue studies of pelagic seabird communities in the eastern equatorial Pacific.

Mark Rauzon presented a paper at the annual PSG meeting in Oregon in January, describing the establishment of an artificial nesting platform for **Red-footed Boobies** at the Kaneohe Marine Corps Air Station in Oahu. He reports that Red-footed Boobys are now using that platform. A report of nesting success will be included in the next bulletin.

Steve and Stephanie Singer, of the Santa Cruz City Museum of Natural History, in cooperation with **David Suddjian,** organized the Santa Cruz Mountains Murrelet Group, a team of volunteers which found the first **Marbled Murrelet** nest in a Coast Redwood tree. The nest was unique in that it occurred on a branch lacking any moss or lichens and was located in the crotch formed where the branch joined the trunk. Later that summer, they became the first group to observe firsthand the fledging of a murrelet from a nest tree.

The nest was discovered in Big Basin Redwoods State Park near the date of egg-laying and was watched until fledging. To avoid attracting predators to the nest site, the tree was not climbed while the nest was active. On the night of July 3, 1991, 22 minutes after sunset, they observed the chick fledge from the nest. This was the first successful fledging to be documented in California, and it occurred despite the fact that the nest tree was located in an area of the park heavily utilized by visitors, and the nest location was known to the resident pair of **Stellar's Jays.** This summer the Santa Cruz Murrelet Group will continue to look for nests, but will also devote some effort to locating new forest sites that are being utilized by the murrelet.

Steve is also active in a second research program to identify, describe, and categorize the in-stand vocalizations of **Marbled Murrelets.** Last summer, researchers in Oregon (**Kim Nelson**), northern California (**Brian O'Donnell**), and Alaska (**Kathy Kuletz**) made tape recordings of murrelet vocalizations that Steve is analyzing and comparing with

California **Clapper Rail** monitoring and studies in San Francisco Bay continue. The population has fallen to below 500 based on annual surveys coordinated by the Refuge. Predator management (focusing on non-native red foxes) was begun by refuge staff in May 1991 and is now being done by Animal Damage Control. **Joy Albertson**, Cooperative Education student with the Refuge, began her Master's research on factors affecting reproductive success in California Clapper Rails, focusing on contaminants and predation. Radiotelemetry on Clapper Rails has been successful and is providing many new findings about home range, movement, and survival.

Dan Anderson of the University of California, Davis is involved in the California Department of Fish and Game study on **Brown Pelican** disease interactions and prevalence. He is continuing long-term monitoring studies on the seabirds of the Gulf of California. **Deborah Jaques** is completing her Master's research with Anderson on **Brown Pelican** communal roosting behavior and habitat use during the nonbreeding period. **Deborah Jaques** and **Craig Strong** have completed a survey of birds in coastal central California State Parks, funded by California State Parks.

Other students of **Dan Anderson** include **Darcy Hu,** who is finishing her Master's research on age-related reproduction in **Red-footed Boobies,** and **Pollo Moreno,** who is conducting his Master's on **White Pelicans** on the breeding grounds in northern California and wintering grounds in Mexico. **Ruth Elbert** will begin her Master's project this fall with Anderson, investigating ecotoxicology in piscivorous birds.

D. Michael Fry is conducting a toxicity study to examine petroleum and dispersant effects on isolated red blood cells, as a model for hemolytic anemia of seabirds exposed to oil. He is initiating a survey of pollutants in seabird eggs along the Pacific Coast. A study is in progress on mitochondrial DNA sequencing in **Marbled Murrelets** and other auklets, comparing California and Alaskan populations. **Fry** and **Dan Anderson** continue their telemetry studies on the recovery of **Brown Pelicans** following release from cleaning centers.

Jay Davis is conducting his Ph.D. research with **D. Michael Fry** on the ecology and pollutant exposure in cormorants in San Francisco Bay and the Delta.

Ken Warheit has moved to Olympia, Washington and is continuing his work on seabirds.

Jean Takekawa

Southern California

Two University of California, Los Angeles researchers are working on Johnston Island. Betty Ann Schreiber is continuing her work with **Red-billed Tropicbirds,** conducting both telemetry and breeding biology studies. **Lisa Ballance** is using doubly-labeled water to examine the links between wing loading and energetics in a number of seabird species. She is also looking at spatial and temporal changes in the composition of pelagic flocks.

Several researchers from the University of California, Irvine are involved in seabird studies. **Mary Beth Decker** has been conducting studies on the use of the frontal system off the Pribilofs by foraging seabirds. In addition, she is examining the effects of temporal variations in oceanic and climatic conditions on the reproductive success of **Thick-billed Murres** and kittiwakes. She is also in the process of analyzing her data on seabird use of tidally-generated upwelling in the Prince William Sound.

George Hunt has a three-year grant to work in the western Aleutians studying the relationship between foraging ecology of auklets and physical features in the island passes. He will be teaming with **Tom Weingartner,** a physical oceanographer, and **Ken Coyle,** a zooplankton specialist, both of the University of Alaska. They will assist, respectively, in identifying the physical aspects of the system and determining the distribution of prey. Some of the specialized equipment they will be using is an acoustic Doppler current profiler, a high-frequency echo sounder for prey, and a specialized net system to sample various layers for prey.

Libby Loggerwell will begin her second voyage with the Canadian Department of Oceans and Fisheries to examine the distribution and abundance of juvenile salmon and herring in the upper 10 m of water. Specially-modified nets will allow a continuous recording of prey information along a transect. This data will then be compared with the recorded distribution and abundance of birds along the transect.

Eric Wohler has been conducting studies in Antarctica on the relationships between seabird food consumption, energy flow, and carbon flux. He will be conducting similar studies this year in conjunction with George Hunt's study on the Aleutian Islands.

Rob Meade, a graduate student of **Stuart Warter** at the University of California, Long Beach, is studying intraspecific cooperative feeding behavior in **Red-breasted Mer-**

Pacific

As part of its conservation efforts, **Sea Life Park Oahu** has rehabilitated sick and injured seabirds since its beginnings in the mid-1960s. Generally, about 300-400 birds are brought to Sea Life Park each year. Although numbers vary from year to year, roughly 200 of these are fledgling **Wedge-tailed Shearwaters**. Most of these are brought in between mid-October and mid-December. In any given year the majority come in within a 4-week time period. This year the peak was between 8 November and 7 December.

Marlee Breese, Curator of Mammals and Birds at Sea Life Park reports that biologists there received 186 shearwater chicks between 21 October and 20 December. Of these, 89 came in suffering from injuries of one sort or another and/or low weight. Although the Sea Life Park biologists have received **Wedge-tailed Shearwaters** with bad eyes (usually a condition of unknown origin) throughout the years , this year they took in 49, an uncommonly large number. The shearwaters are treated with an ophthalmic antibiotic and, when healed, they are released.

Breese says that they successfully released 93 birds; unfortunately, 84 birds did not survive their injuries. Sea Life Park will continue to care for 9 birds that sustained injuries such as broken wings, making them unsuitable for release.

G. Causey Whittow and Qinggen Zhang, of the Department of Physiology, John A. Burns School of Medicine, University of Hawaii, have completed an extensive study of embryonic growth and oxygen consumption in the **Sooty Tern, Wedge-tailed Shearwater**, and **Laysan Albatross**. The results indicate different rates of growth of organs prior to pipping of the egg and a marked acceleration of growth of some organs after pipping had occurred.

The U. S. Coast Guard will be terminating operation of a LORAN station at **Kure Atoll, Northwestern Hawaiian Islands** in June of this year. During September and August they will demolish most of the buildings present on the island. In addition they will be removing the LORAN antenna, thus eliminating a significant hazard to resident seabirds.

The U. S. Fish and Wildlife Service continues its work in the Pacific/Remote Island National Wildlife Refuge Complex. The USFWS Animal Damage Control and the Government of American Samoa have been working cooperatively to eradicate Polynesian rats from Rose Atoll NWR, American Samoa. The most recent of three trips to this 6.07 ha island took place in September of 1991. Although the rat population has been significantly reduced using live traps, snap traps , and the rodenticide Weatherblok with brodifacoum, this trip revealed the continued presence of rats. Four rats were trapped over a 26-day period.

A fourth trip to Rose Atoll is scheduled for June of 1992. Biologists will survey for rats and continue the eradication efforts if necessary. Since the remaining rats may be avoiding the Weatherblok rodenticide, an alternate rodenticide, Vengeance (containing bromethalin), will be used during the operation, and Weatherblok will be left on the island when the operation is complete. A fifth trip is tentatively scheduled for September, pending the outcome of the June trip.

USFWS continues to monitor populations of seabirds on Johnston Atoll NWR. Service managers and biologists are also working closely with the military to minimize the affects of their activities on wildlife.

The U.S. Coast Guard will be ceasing operation of the LORAN station at Johnston and will be removing the 625 foot antenna and its associated guy wires. This antenna has caused the deaths of thousands of seabirds over the years.

Lisa Ballance, National Marine Fisheries Service, Southwest Fisheries Center, La Jolla, California will be measuring flight energetics of **Red-footed Boobies, Wedge-tailed Shearwaters,** and **Sooty Terns** at Johnson Atoll during spring and summer field seasons, and **Elizabeth Anne Schreiber,** Los Angeles County Museum of Natural History will continue monitoring the breeding parameters of seabirds for any potential affects of the Johnston Atoll Chemical Agent Disposal System. Betty Anne plans to establish baseline data to compare these parameters among years in order to insure continued successful breeding of the birds on atoll.

During December and January, USFWS biologists and volunteers conducted an intensive nest census of **Laysan and Black-footed Albatrosses** on Midway Atoll NWR, Northwestern Hawaiian Islands. Results will be presented at the 1993 annual PSG meeting. USFWS managers and biologists also continue to work with the U.S. Navy to reduce the effects of their activities on resident wildlife. **Mike Nishimoto** has been selected as the first Refuge Manager at Midway. **Don Williamson** continues as the Refuge Wildlife Biologist.

As a result of a scale-down of military operations, nearly all antennas have been removed from Midway. As at Johnston these antennas have killed thousands of birds every year.

Two **Short-tailed Albatrosses** were present on Midway again this season.

USFWS has initiated a program to control an alien grass, *Cenchrus echinatus,* on Laysan Island, Hawaiian Islands NWR. The grass threatens to drastically alter the ecology of this important seabird nesting island by outcompeting native plants. Biologists are present on the island year round in an effort to control the plant. In addition to their control duties, the biologists also monitor seabird populations. During December a nest census of **Laysan and Black-footed Albatrosses** was conducted to comple-

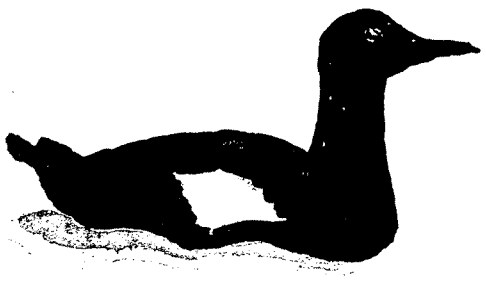
habitat on formerly unvegetated intertidal sediments. *Zostera japonica* is grazed heavily by wigeon and brant, and supports abundant invertebrate populations exploited by other ducks and juvenile fishes. This new vegetation type (which invaded in the late 1950s) is also important to fish-eating birds that hunt in tidepools or at high tide, or that depend on nearshore food webs supported by eelgrass detritus. Lovvorn is also continuing his research on the energy costs of underwater locomotion and thermoregulation in diving ducks.

Bruce Pugesek of the National Wetlands Research Center continues long-term research on the population ecology and life histories of **California Gulls** at Bamforth Lake National Wildlife Refuge in Wyoming. This project, begun in 1958, is one of the longest continuous studies of the breeding histories of individual birds. **Chris Nations** will begin the second field season of his Master's research at the University of Wyoming as part of the Bamforth Lake gull project.

Eileen Kirsch of the Northern Prairie Wildlife Research Center, La Crosse Field Station is beginning a study of the distribution and abundance of **Double-crested Cormorants** along the Mississippi River from St. Louis to the Twin Cities. Aerial surveys will be used to locate roost sites and colonies throughout the year. Effort will be made to identify what proportion of cormorants on the upper Mississippi River are breeders.

Jim Glaum (USDA APHIS) continues his work to develop bioenergetics estimates of the impact of **Double-crested Cormorants** on catfish farms. This research involves food habits studies, radiotelemetry, and roost counts (**Andy Aderman's** project described above). The distance between roosts and foraging sites is usually 15-30 km, with a maximum of 40 km. Diets of cormorants collected at roosts was about half gizzard shad and half catfish.

James Lovvorn



Stone 92

Southeast

Keith L. Bildstein from Winthrop College, Rock Hill SC is in the 14th year of a long-term study of **White Ibises** breeding in coastal South Carolina and is in the 3rd year of tracking the recovery of this population from the effects of Hurricane Hugo. He has found that damage to freshwater feeding sites associated with the hurricane has had a severe impact on the breeding population.

David F. Brinker of the Maryland Department of Natural Resources in Wye Mills continues to monitor colonial waterbirds in Maryland. However, fiscal constraints currently allow the monitoring of only some species, usually those with small populations. Much of Brinker's recent fieldwork has consisted of surveys of rails, surveys that have greatly increased knowledge of **Black Rail** distribution in Maryland.

Heron and **anhinga** colonies in Alabama's coastal plain are the focus of continuing surveys by **Julian Dusi** of Auburn University. Anhinga populations have increased recently and have had an extended breeding season. In 1991 they had young in the nest as late and September, and this year they began breeding in March.

R. Michael Erwin of the USFWS Patuxent Wildlife Research Center will be putting radios on **Snowy Egrets** and **Black-crowned Night Herons** at Chincoteague, Virginia to determine wetland habitat use and nestling mortality. Erwin is currently analyzing results of a two-year Earthwatch project in eastern Virginia that assessed wetland habitat use by wading and shorebirds.

Although he is doing little work specifically on colonial waterbirds, **Douglas J. Forsell** (USFWS, Chesapeake By Estuary Program, Annapolis, MD) is developing a program to census all species of migratory waterbirds found on the open waters of Chesapeake Bay. His study will use new methods to analyze the results of aerial surveys.

Gilbert S. Grant of Coastal Carolina Community College in Jacksonville NC is taking a two-year position in American Samoa, where his primary research, in collaboration with **Pepper Trail**, will be on fruit bats. Grant also plans to work on sea turtles and birds.

Susan B. Haig of the Clemson University Coop Unit, Clemson SC is evaluating the use of impoundments by shorebirds under different management regimes. Haig is looking at both wintering and migrant populations.

Todd Haas of the University of North Carolina at Chapel Hill is comparing 15 years of **David Lee's** offshore seabird observations with satellite imagery and oceano-

Washington Report

Daphne Gemmill

Twenty-two years after the first Earth Day, demonstrating concern about the environment has become pervasive in the media. Smiling "mothers" on TV commercials inform us of the importance of recycling (and the need to buy their "environment-friendly" products). A children's cartoon features heroes whose evil nemesis is environmental destruction, instead of the more conventional black-caped villains. Celebrities make personal appearances touting the need to conserve the planet's resources. This publicity, self-serving and otherwise, provides positive attention towards environmental problems and their possible solutions. This is especially true on the political front. With one exception, the now-narrow field of presidential candidates have included environmental issues in their campaign platforms.

The following summaries of the candidates' environmental positions have been based on the League of Conservation Voters report, "The Presidential Candidates 1992: Records and Positions on Energy and the Environment". If you would like a copy of their entire report, write to League of Conservation Voters, 2000 L St. NW #104, Washington DC 20036.

PATRICK J. BUCHANAN (R)

Buchanan's career in the media has not given him the opportunity to influence environmental policy directly. He did make his views known during his position as Reagan's Director of Communications, however, by bemoaning public criticism of James Watt.

Most of his potential actions on any issue can be based only on his written and spoken views. He has commented several times on what he sees as the adversarial nature of industry and environmentalism, though he has supported some environmental action. For example, Buchanan has suggested liming lakes in order to neutralize the acid in their rainfall. Environmentalists generally have criticized liming as a "too little, too late" solution that treats symptoms of pollution rather than addresses its causes.

In keeping with his non-government interference beliefs, Buchanan has proposed a two year moratorium on environmental regulations that "jeopardize jobs and impose on business and private property rights". But for the most part he ignores the environment altogether, preferring to focus on economics, foreign and domestic political reform, and the need for social change.

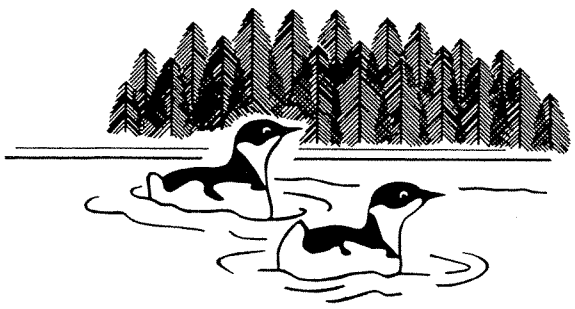
GEORGE BUSH (R)

In his 1988 inaugural speech, Bush swore to be, among other things, "the environmental president." As a congressman, his record early in his career demonstrates the start of this promise. He introduced the first and largest bill to preserve the Big Thicket in Texas as a National Park. He also led an effort to prevent the channelization of the Buffalo Bayou near Houston. However, as Vice President, Bush embraced the Reagan administration's laissez faire attitude toward the environment, announcing revised EPA programs for pesticide registration, air pollution standards, and hazardous waste regulations.

As President, his policies in general consist of "band-aids" rather than fundamental changes. For example, the US has pledged to contribute $75 million in international funds designed to aid developing countries in combating "the greenhouse effect." Bush has set up the EPA's Green Lights Program, which helps state governments and corporations install energy-efficient lighting, and has pledged to plant 1 billion trees each year. His best known environmental action has been signing the 1990 Clean Air Act into law.

However, like Buchanan, Bush believes "pro-business" conservatives see any positive environmental action as threatening. To balance his environmental programs and funding, he reneged on his 1988 "no net loss" pledge toward wetlands and "redefined" some 30 million acres. While his administration's 1991 budget requested phasing out logging on 12 "below-cost" (unprofitable) National Forests, it withdrew the request in the face of congressional opposition and has not renewed it since. And it is not surprising with his oilman background that Bush supports oil and gas exploration in the Arctic National Wildlife Refuge and ignored energy conservation and environmental protection when introducing his 1991 National Energy Plan.

In addition to not changing basic standards on his own, Bush has criticized adopting international goals. He refused to join world leaders in an agreement that would reduce carbon dioxide emissions to 1990 levels by the year 2000, citing that to cut back would place the United States at an economic disadvantage. Like Buchanan, it seems unbelievable to Bush that protecting the environment could actually improve a country's standard of living, though Japan and some European nations are basing their own economic projections on that theory.



Marbled Murrelet
(Brachyamphus marmoratus)

Napa Valley
Merlot

ALCOHOL 12.7% BY VOLUME

This Merlot has been specially bottled to celebrate the efforts of the Pacific Seabird Group for the conservation of the Marbled Murrelet (Brachyramphus marmoratus). The already small number of this small, diving seabird are being reduced at ocean feeding areas by oil spills and fisherman's gill nets. Proceeds from the sale of this wine will help support PSG's efforts.

GOVERNMENT WARNING: (1) ACCORDING TO THE SURGEON GENERAL, WOMEN SHOULD NOT DRINK ALCOHOLIC BEVERAGES DURING PREGNANCY BECAUSE OF THE RISK OF BIRTH DEFECTS. (2) CONSUMPTION OF ALCOHOLIC BEVERAGES IMPAIRS YOUR ABILITY TO DRIVE A CAR OR OPERATE MACHINERY, AND MAY CAUSE HEALTH PROBLEMS.

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CONTAINS SULFITES

For those who were not fortunate to attend the Charleston meeting, we reproduce here the label from the special bottling of Marbled Murrelet Merlot that helped make the meeting such a succcess. The fund to publish the Marbled Murrelet Symposium received $3 from the sale of each bottle. Feel free to cut out the label, wrap it around a bottle of your favorite beverage and then write a check to assist with the publication..

Summary of Minutes of the Executive Council Meeting

The following is a summary of the Executive Council meetings held on 15 and 17 January 1992 in Charleston, Oregon. Anyone wanting to obtain the complete minutes of the meeting should contact the PSG secretary Beth Flint.

Malcolm Coulter called the meeting to order at 1330. A quorum was present consisting of Malcolm Coulter (chair), Palmer Sekora (chair-elect), Beth Flint (secretary), Ellen Chu (treasurer); past chairs Mike Fry and Scott Hatch, regional representatives Harry Carter (proxy for Jean Takekawa), George Divoky, Jim Lovvorn, Roy Lowe, and Ken McDermond. Eighteen additional PSG members participated in the meeting.

Bylaws

As a result of points raised at the PSG 2000 meeting at last year's annual meeting, a Bylaws Committee was established consisting of Palmer Sekora, Doug Siegel-Causey, and Malcolm Coulter. During the past year they proposed that the term "conservation" be added to the organization's objectives and that a Vice-Chair for Conservation be established. These suggestions were put to the membership and adopted by the Group with 159 in favor of adopting the changes and 6 opposed. The office of Vice Chair for Conservation was included in the elections held in late 1991.

Meetings

Janet Hodder, local committee chair, reported that 125 people had registered for the Charleston meeting and that there were 50 papers (8 of them posters). She mentioned that charging a higher registration fee after a certain date had been successful in causing most people to register in a timely manner and recommended that this practice be continued. It was pointed out that roughly half the people presenting papers at the Charleston meeting were not PSG members, and it was proposed that at future meetings registration for non-members be $10 higher and include membership in the PSG.

The next annual meeting will be held on 9-13 February 1993 in Seattle, Washington; it will be the 20th annual meeting. The local committee Lora Leschner (chair), Ellen Chu, and George Divoky discussed the possible sites for the meeting and the trade-offs between an easy access downtown hotel or a rural, aesthetically pleasing locale. The Executive Council voted for a downtown Seattle location. The Seattle meeting will be from Tuesday through Friday, allowing the weekend to be for field trips and/or travel. The meeting will have a paper sessions on Pacific Northwest seabirds and will celebrate the 20 years of PSG accomplishments.

There was a discussion of sites for the 1994 meeting. Lora Leschner had already put PSG on the waiting list for Asilomar in 1994 in case we decide to go there (PSG has held meetings there 6 times). Ken Warheit pointed out that the PSG 2000 survey indicated that attendance would drop if the annual meeting is too distant from the central-California-to-Seattle area. Ken Briggs suggested the Sacramento area and pointed out that a strong local committee was present there. The Council then voted to hold the 21st annual meeting in Davis/Sacramento, California

PSG Bulletin

Martha Springer will assume the duties of *Pacific Seabird Group Bulletin* editor with the 1992 volume. The Bulletin Working Group believes the Bulletin should attempt to change its focus from just presenting information on seabird research and researchers to placing more emphasis on seabirds themselves and conservation issues relating to seabirds. Such a change in focus would increase interest in the publication from people interested in the Pacific Seabird Group to those interested in Pacific Seabirds. There was some discussion on the need to have regional representatives take the time to contact all potential researchers in their area so that the *PSG Bulletin* provides comprehensive information. There was also discussion on how an expanded Bulletin would put greater demands on the editor and that it may be necessary in the future to provide a stipend for editorial duties.

Treasurer's Report for 1991

Income

As always, most of our income in 1991 came from membership dues, including life memberships. Unlike regular memberships, which become part of PSG's yearly cash flow, life membership dues are deposited directly into the Endowment Fund. In 1991 PSG received $5,222.71 in regular memberships and $1,500.00 in life memberships. In October, businessman and birder Ted Cross donated $5,000 to PSG, with no strings attached, thanks in part to his acquaintance with John Piatt and Malcolm Coulter. He was given life membership and a warm letter of thanks. In addition, PSG received $70.00 from T-shirt sales by Nancy Naslund and $195.00 in other unsolicited donations. (T-shirt sales at the Charleston, Oregon, meeting will be counted in our 1992 budget.)

The figure for the Monterey Annual Meeting is net "profit," after actual meeting expenses have been subtracted. Despite contributions by Moss Landing Marine Lab and UC Santa Cruz, this figure is only just over half the net gain of the Victoria meeting.

Expenses

The $1,500 symposium printing expense was approved by the Executive Council in 1987 for printing *Studies in Avian Biology*, No. 14, "Auks at Sea," published in conjunction with the Cooper Ornithological Society; the paperwork came through only in 1991.

Increased officers' expenses this year reflect increased activity on the part of many volunteers, particularly the PSG 2000 committee. The 1991 Bulletin cost $3,746 to print and mail, partly because issue 18(2) contained a membership directory, making it as big—and therefore as expensive—as issue 18(1). Despite desktop publishing, total 1991 *Bulletin* costs came to nearly $1,000 more than the top figures for the past five years.

The accounts for the Charleston meeting are being kept by Janet Hodder of the Oregon Institute of Marine Biology and will be entered into next year's report.

North Pacific Symposium

At the request of Kees Vermeer, a separate savings account has been established for contributions for printing the symposium proceedings from the Victoria meeting on North Pacific seabirds. Chapter authors should send their page charges to the treasurer in Kirkland for deposit into this fund.

Endowment Fund

The endowment fund is in the form of US Government Securities, brokered through Dean-Witter Reynolds. As of December 1991, PSG owned 3593 shares at $9.52 per share, for a total market value of $34,200.85 (compared with 2634 shares at $9.37 per share in December 1990). Donations, life memberships, and income from fund raising are deposited directly into this fund.

Examination of past minutes revealed that the Endowment Fund was set aside specifically for funding symposia, and only interest is to be used [see letter from Judith Hand, *PSG Bulletin* 18(2): 1991 and 10(2): 1983].

Membership

As of 1989, "current members" have been defined as those who have paid their dues for a given year before the first issue of that year's *Bulletin* has been mailed. Forgetful members can rejoin at any time, but only current members receive the *Bulletin*. At the end of 1991, PSG had 336 members who were paid through 1991 or later (334 current members in 1990); of these only 34 joined for the first time in 1991. This means that our renewal rate is now almost 90%, but it also means that we need to put more effort into recruiting new members. In addition, 54 institutions worldwide receive the *PSG Bulletin*, of which 26 are paid subscriptions and the rest are journal exchanges or goodwill gifts.

Dues notices were sent out in November 1991, and at press time, the renewal rate is running about 75%, with about 25 new members joining in the first quarter of 1992.

New Treasurer

Ken Warheit takes over as treasurer in mid-1992. To transfer duties as efficiently as possible, I will continue to process 1992 dues and pay all PSG bills out of the main PSG checking account in Kirkland, Washington, until Ken has a stable address in late summer. Ken will take over all other treasurer-like duties, including keeping an updated mailing list. Please direct any requests for mailing labels to him from now on.

Thanks for an amazing four years.

Respectfully submitted,

Ellen W. Chu, Treasurer
Pacific Seabird Group
15 Central Way, Suite 197
Kirkland, WA 98033 USA

Report from the Marbled Murrelet Technical Committee

S. Kim Nelson, Chair

Species Status

In June 1991 the U.S. Fish and Wildlife Service proposed listing the Marbled Murrelet as a threatened species in Washington, Oregon, and California. A final decision on the listing is expected in June 1992. The murrelet was listed as endangered in California by the California Department of Fish and Game in March 1992. State listing in Washington and Oregon is pending.

REGIONAL REPORTS

Alaska

U.S. Fish and Wildlife Service - Kathy Kuletz

In 1991 the feasibility study to identify Marbled Murrelet nesting habitat in Prince William Sound was completed. The information will be used to guide acquisition or protection of habitat that would benefit Marbled Murrelets in the *Exxon Valdez* oil spill zone. Kathy Kuletz (P.I.), Nancy Naslund, Dennis Marks, Mary Cody, and George Esslinger conducted the study, which was based on Naked Island. The team surveyed for murrelets in four forest types, monitored seasonal activity, tested tape recorders and conducted marine surveys of the study area. Four tree nests were found; these were the first documented tree nests in southcentral Alaska.

This year Kathy Kuletz, Nancy Naslund, and Dennis Marks will continue nest searches and behavioral studies on Naked Island. They will also initiate an upland survey of Prince William Sound which will incorporate at-sea densities, upland habitat, and murrelet detections. Damage assessment and restoration reports for the Marbled Murrelet will be completed for possible release in late 1992. In addition, private lands on Afognak Island, north of Kodiak, will be surveyed for murrelets for consideration in the restoration process.

John Piatt coordinated with Glacier Bay National Park biologists to conduct marine surveys for *Brachyramphus* murrelets in Glacier Bay, and he hopes to continue the surveys in 1992. John is also compiling data on murrelet food habits throughout Alaska.

British Columbia

Vancouver Island - Irene Manley and John Kelson

A second Marbled Murrelet tree nest was discovered in August 1992 in British Columbia. The nest was located in an old-growth Sitka spruce tree in the Walbran Valley on the east coast of Vancouver Island, within 200 m of the 1991 nest. The nest was discovered through an intensive tree climbing effort.

Washington

Washington Department of Wildlife - Tom Hamer and Eric Cummins

A study of the relationships between forest characteristics and the use of inland sites by Marbled Murrelets in northwestern Washington was conducted. Surveys for murrelets were done using fixed point morning surveys at 68 old-growth stands in the North Cascades of Washington in 1991. Highest detection rates were recorded 35 km inland with a rapid decline in abundance after 60 km. Over 90% of all detections were recorded at sites less than or equal to 60 km inland. The farthest inland detections occurred 72.4 km for the nearest saltwater. Twenty-nine forest variables were measured at 54 of these stands using a 25 m radius plot. A t-test compared each forest variable between high- and low-use stands. High-use stands were defined as those sites with >10 detections per morning and with detections on at least 2 of 4 surveys. By definition, 42 sites were labeled low-use and 12 as high-use.

Site elevation ranged from 213 to 1,493 m. Stands with high-use were significantly lower in elevation, had a higher percent composition of Douglas fir, western hemlock, and western red cedar, and a lower composition of silver fir. The mean diameter (DBH), aspect, and number of potential nest platforms were all significantly higher in high-use than low-use stands. Over 89% of all detections were recorded below 900 m in elevation.

In general, a stand receiving high-use by murrelets in the North Cascades may be characterized as old-growth coniferous forest less that 900 m in elevation, located less than 60 km from saltwater, with over 73% composition of Douglas fir, western hemlock, and western red cedar with a mean DBH of 134 cm, with less than 27% composition of silver fir and mountain hemlock, an abundance of large

Murrelets is proceeding on schedule. Last summer, cooperating researchers in Oregon (S. Kim Nelson), northern California (Brian O'Donnell), and Alaska (Kathy Kuletz) made tape recordings of murrelet vocalizations for comparison to recorded vocalizations in Big Basin State Park, California (Steve Singer). Analysis of these calls and collateral data is in progress; results of this joint research effort will be published in the near future.

U.S. Forest Service, Redwood Sciences Lab - C.J. Ralph and Sherri Miller

Plans for 1992 include both offshore surveys and forest research. We plan to continue our Marbled Murrelet (and all seabird) surveys in the coastal waters of California and southern Oregon, and, in addition to surveys from small boats, we will conduct aerial surveys periodically throughout the breeding season. We plan to continue the survey effort into late August and September. Since there is some indication that 1992 may be a major El Nino, data may be useful in understanding the effects of possible changes in food availability on offshore murrelet distribution.

We will begin a project to examine the relationship between murrelet activity levels and occupancy in a forest stand, and the size and characteristics of the stand. The project is a cooperative effort between several government agencies and the timber industry. Field efforts in 1992 will focus on northern California. The Geographic Information Systems (GIS) will be used for selection of study sites, as well as for data analysis and mapping. We will also look for relationships between inland activity and offshore distribution patterns. In 1993 the project will be expanded to include central California and southern Oregon.

Marbled Murreleteers Ringed in Auke Bay

PSG members Nancy Naslund and John Piatt were married March 13th 1992 on the shores of Auke Bay, Alaska. Gus VanVliet, also a PSG member, ringed the two under a special permit authorized by the state. The honeymoon began the at 3 a.m. the morning of the 14th, when the newlyweds went out for a predawn watch of Marbled Murrelets in the forests of Douglas Island. John and Nancy are currently living in Anchorage, Alaska.

Minutes from a Meeting of the Pacific Seabird Group's Marbled Murrelet Technical Committee, 17 January 1992, Charleston, Oregon

The meeting began in conjunction with the Conservation Committee since concerns over continuing impacts of the *Exxon Valdez* oil spill were of interest to both groups. The committees then separated to discuss other pertinent matters of concern. The Marbled Murrelet meeting was facilitated by Rebecca Goggans, Oregon Department of Fish and Wildlife.

The meeting began with a brief account of recent and continuing research in Alaska and British Columbia not presented in the paper or poster sessions. The remainder of the planned agenda was scanned, and, due to time constraints, items of primary and immediate importance were selected for discussion.

I. ADMINISTRATIVE and STRUCTURAL ISSUES

The selection and responsibilities of the Chair were discussed. The suggestion was made that the position title be changed from "Chair" to "Secretariat," which might better describe the function of the person in that role. (However, the term "Chair" remained in use during the rest of the meeting). It was generally agreed that the primary responsiblities of the Chair were to serve as a conduit for information between members/researchers and to disseminate information concerning marbled murrelets to those who request it. The Chair is also a liaison with the Executive Council and the rest of PSG, which requires adherence to certain procedural structures. Following those procedures takes time, and contacting every MMTC member before the Chair takes a given action is unwieldy and impractical when something demands immediate attention. The issue of how independently the Chair can act arises when the conduction of information is perceived as becoming advocacy. Since the issue of pure science vs. advocacy is one of concern to PSG, a decision as to how to resolve these conflicting opinions will be left to the Executive Council and the PSG 2000 Committee.

The question was raised as to how the Chair should be selected. If the Chair were to be appointed by the Executive Council it would facilitate input from outside the committee. However, the Technical Committee can provide a more limiting and refined view of actions needed and adopted, and if the Chair were elected by MMTC members

IV. FUTURE RESEARCH

The question was raised as to whether we should make a list of future research needed. It was pointed out that the former list of Research Priorities (circa 1989) is not being used right now anyway.

The current "Nest Site Sampling" protocol also needs revision. A working group will be formed to revise it.

Regarding a separate protocol for ground searches for murrelet nests: another working group will be formed to write a list of guidelines.

V. ANNUAL MEETING OF THE TECHNICAL COMMITTEE

It was suggested that an entire day be set aside each year for this meeting, rather than just a couple of hours when perhaps other committees of interest (Conservation) are also meeting. There was a difference of opinion as to when this should occur. The current plan is to schedule the meeting as a day added to those of the PSG conference as a whole — at least for next year, in Seattle.

NOTE: There will be two (2) MMTC meetings in the upcoming year. One will be held in the Fall of 1992, probably in Portland, Oregon, and the second will be held on the 8th of February 1993 in Seattle, Washington, the day before the PSG Annual Meeting begins (9-13 February 1993).

VI. WORKING GROUPS

Following is a list of the working groups formed during the meeting. The Chairs of each group will be responsible for contacting the other group members and getting the necessary tasks completed. The Chairs will also be responsible for notifying S. Kim Nelson, Chair of the MMTC, of the group's activities.

If for some reason you do not want to be part of a group you were assigned to or volunteered to participate in, please let Kim know ASAP. Also if you would like to participate in the activities of a group, please contact Kim ASAP so your name can be added to the committee list.

Chair duties, objectives and Membership of MMTC — Kim Nelson (Chair), Lora Leschner, Harry Carter

Survey protocol revision — C.J. Ralph (Chair), Kim Nelson, Steve Singer, Kathy Kuletz, Tom Hamer, Meg Shaughnessy, Sarah Madsen (USFS Representative)

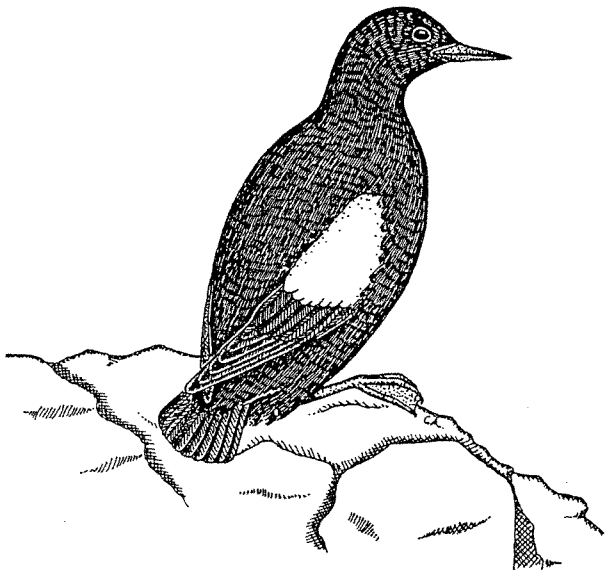
Nest site sampling protocol revision — Tom Hamer (Chair), Kim Nelson, Kathy Kuletz, Janet Hardin, Steve Singer, Dan Varoujean

Nest search guidelines — Nancy Naslund (Chair), Kim Nelson, Irene Manley, Tom Hamer, Janet Hardin, Stephanie Singer

Disturbance accounts/records — Fred Sharpe (Chair), Kim Nelson, Irene Manley, Nancy Naslund, Sherri Miller, Janet Hardin

Educational brochure— Kathy Kuletz (Chair), Fred Sharpe, Janet Hardin

Minutes taken by Janet Hardin



Endangered Species: The U.S. Endangered Species Act is up for reauthorization and should be one of the major environmental battles of the year. Status of some seabird species of interest to PSG are:

Harcourt's Storm-petrel: PSG has sent information concerning the status of Harcourt's Storm-petrel (*Oceanodroma castro*) recommending it for listing as an endangered species. No response to our letter or action on the proposal for listing has occurred to our knowledge.

Xantus' Murrelet: At the annual meeting, concern was expressed about the Xantus' murrelet (*Synthliboramphus hypoleucus*). Recent censuses in southern California show low populations. Information from Baja, Mexico is less complete. PSG members were divided on whether or not there is sufficient information at this time to consider listing this species.

Spectacled and Steller's Eider: The Spectacled (*Somateria fischeri*) and the Steller's Eiders (*Polysticta stelleri*) are eiders that nest in Alaska and the Russian Far East. U.S. Fish and Wildlife Service (FWS) survey data show that Spectacled Eiders have declined from about 100,000 to just 10,000 in Alaska. Steller's Eiders were once considered a common species nesting on the Yukon-Kuskokwim delta of Alaska, but are now thought to be extinct in that area. The North American population is now apparently restricted to a small area near Point Barrow and is considered rare in the Yakutsk Republic of Russia, the center of the world breeding range.

Reasons for the declines are unknown. Some of the possible factors which could be contributing are increased mortality due to overharvesting, predation, habitat change, weather, reduction of food supply, and/or development activities. The FWS is proposing that the Spectacled Eider be listed as a threatened species, but has decided that Steller's Eider be precluded from the listing due to higher priorities.

Seaducks are species that have not been monitored as intensively as most other ducks. The FWS conducted a workshop on Spectacled and Steller's Eiders last year and on other seaduck species in general this spring to compile available information and plans for future data collection. There is concern that declines of other seaduck species and the lack of basic data may also apply to the other eider species, scoters, and harlequin ducks.

Slide Exchange: As part of the annual meeting the conservation committee conducted a slide viewing and duplicate ordering session. Some 387 slides of seabirds, colonies, and related issues were shown and some 1,300 duplicates ordered. The most popular topics were the *Exxon Valdez* oil spill, drift-net morality, and other conservation topics. It is hoped that this service will provide PSG members with better slides for public programs and scientific presentations. Also money was raised for the PSG treasury in the process.

Palmyra Atoll, Hawaii: Development plans may threaten this seabird island. PSG Hawaiian Island members are monitoring negotiations between the developer and the U.S. Fish and Wildlife Service to see what actions PSG could take to help protect this habitat. Acquisition of the island for refuge status has been proposed.

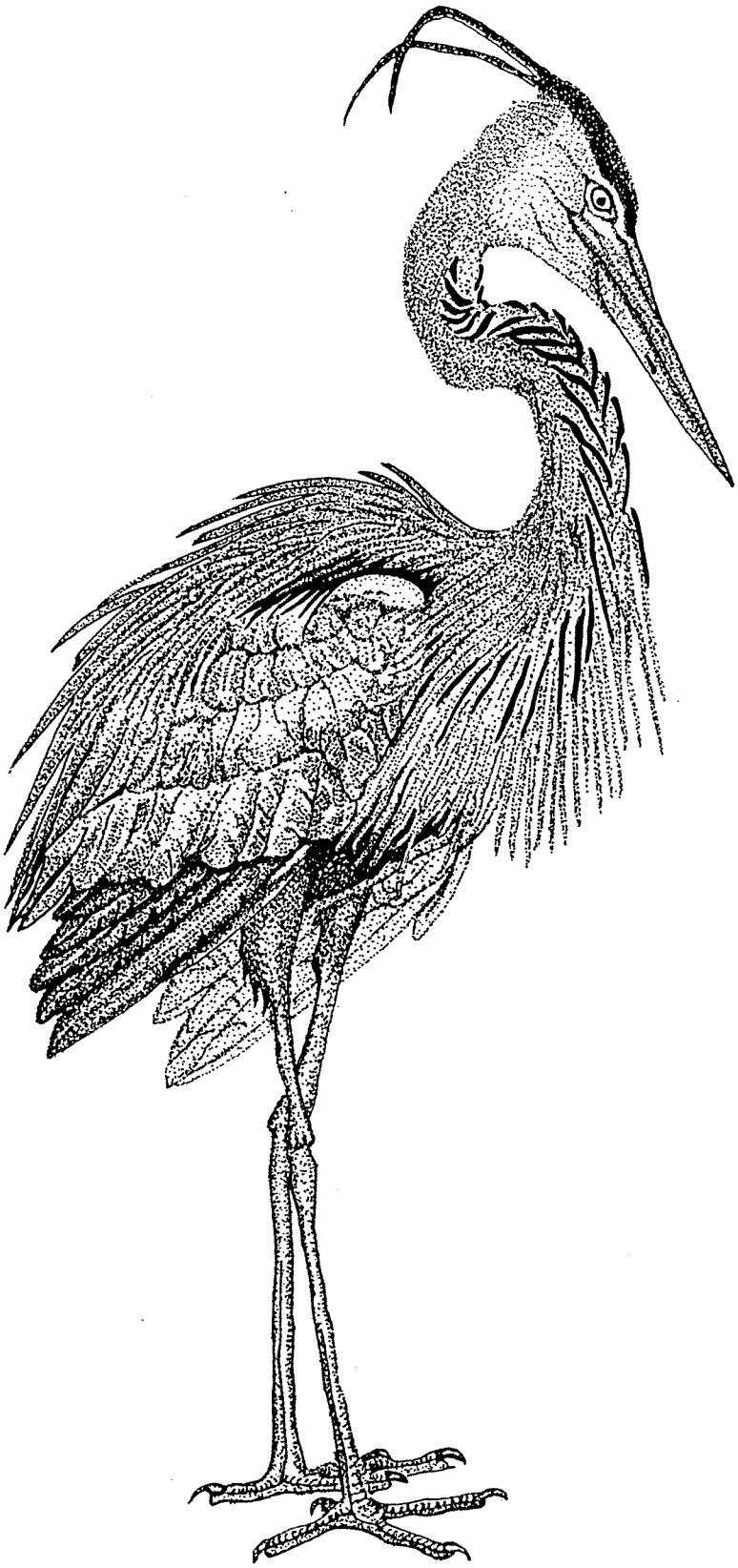
Cormorants, San Francisco Bay: Double-crested Cormorants have colonized many of the bridges in San Francisco Bay in recent years. Concerns about disturbance to these birds from activities such as bridge painting and dangers of falling nest material onto vessels were discussed at the annual meeting. PSG members with special knowledge on the area are drafting a letter expressing our concerns to the California Transportation Department.

Marine Sanctuaries: Several new Marine Sanctuaries are being considered along the West Coast of the United States. These include Monterey Bay in California, Olympic Coast and Northern Puget Sound in Washington State, and Kahoolawe in Hawaii. PSG has provided information in support of the Monterey Bay proposal and has advocated including the Northwest Hawaiian Islands and Kauai's north shore to the Kahoolawe study.

Little PSG action has been done related to the Washington proposals. Any members with knowledge and interest in that area have an opportunity to contribute. The Center for Marine Conservation publishes a special newsletter on the status of Sanctuary proposals. If you are interested in getting on their mailing list or need the most recent news about a proposal, contact their office @ (415) 391-6204.

There are no Marine Sanctuaries in Alaska or likely proposals that may be approved. PSG is considering nominating the Pribilof Islands for sanctuary status if support from the local Aleut communities can be assured. It is felt that without full local support there is no hope for approval.

Alien Predators: Introductions of rats, foxes, cats, and other alien animals to seabird islands have caused more damage to island flora and fauna than probably all other



surveys of the colony in 1987. The population appears to be in decline. The proportion of penguins that are single or paired has not varied among the years but the number of active nests and number of penguins have decreased. The number of active nests has declined by nearly 30% from October 1987 until October 1991. The population has declined in each of the last 4 years. This decline does not appear to be explained by natural variability. The decline may be caused by chronic oil pollution caused by the discharge of oily ballast water along the Patagonian coast.

DIVING DEPTHS AND UNDERWATER FORAGING IN RHINOCEROS AUKLETS. Alan E. Burger and Donald Garnier (Biology Department, University of Victoria, Victoria, B. C., Canada V8W 2Y2).

Diving depths of Rhinoceros Auklets *Cerorhinca monocerata* were measured using maximum depth gauges and time-at-depth recorders at three islands in British Columbia. The deepest dive was to 65 m, but most birds foraged intensively in the upper 20 m. Prey delivered to chicks varied significantly between islands. Common prey fish were *Ammodytes hexapterus, Hypomeseus pretiosus, Cololabis sairi,* and immatures of *Clupea harengus, Onchorhyncus* spp., *Sebastes* sp., and *Hexagrammos decagrammus.* Variations in the composition of prey loads are discussed. Analysis of bite-marks indicates that most prey were captured from below, and this is supported by field observations.

THE RECENT STATUS OF RED-LEGGED KITTIWAKES: IS THERE REASON FOR CONCERN? G. Vernon Byrd (U.S. Fish and Wildlife Service, Box 5251 NAS, Adak, AK 98791).

Red-legged kittiwake (*Rissa brevirostris*), a rare seabird confined to four nesting locations in the Bering Sea, has recently declined at its major breeding colony, St. George Island. Furthermore, extremely low productivity has been recorded in most years during the past decade. Available data from St. George I., and the other breeding locations are evaluated to consider whether there is reason for concern about the status of this species.

THE EFFECT OF BROOD SIZE AND FOOD SUPPLEMENTATION ON ADULT AND CHICK BEHAVIORS IN GLAUCOUS-WINGED GULLS (*LARUS GLAUCESCENS*). Dean A. Cabansag and Ronald L. Carter* (Dept. of Natural Sciences, Loma Linda University, Loma Linda, CA 92350)

In a colony of Glaucous-winged Gulls, 83 territories were manipulated into one of four brood size categories: 1-chick, 3-chicks, 6-chicks, and 9-chicks. In addition, approximately one half of the territories in each size category were provided with food supplementation for the first two weeks after chick hatching. Data on chick survival, adult attendance on territory, and frequencies of adult and chick behaviors were collected over five week period. Chick survival rate, number of adults on territory, adult behaviors (feeding, upright) and chick behaviors (begging, preening, resting, walking) varied significantly with respect to brood size. In food supplemented territories, chick survival, adult attendance on territory and the frequencies of adult and chick behaviors appeared to differ from control territories.

CENSUSING NESTING CALIFORNIA BROWN PELICANS FROM AERIAL PHOTOGRAPHS. Harry R. Carter, Trudy Ingram* (Channel Islands National Park, 1901 Spinnaker Dr., Ventura, Ca 93001), Franklin Gress (Department of Wildlife and Fisheries Biology, Davis, Ca 95616), Gerard J. McChesney, and Deborah L. Jory (U.S. Fish and Wildlife Service, 6924 Tremont Rd., Dixon, CA 95620).

In April, May and June, 1991, we conducted aerial surveys of California Brown Pelicans nesting on West Anacapa Island, California, using either high resolution or 35-mm format cameras. We compared numbers of nests and chicks with counts of the same areas made from traditionally-used island observation points. Initial results indicate that 20-30% more occupied nests and chicks are visible from high resolution photos compared to those observed from the ground. Similarly, we counted about twice as chicks in one area from standard photos compared to those counted from the island, although the total nest count for this site was nearly identical for both methods. We discuss logistical problems, disturbance issues, costs, and potential sources of error for each method.

BREEDING POPULATIONS OF SEABIRDS IN SOUTHERN CALIFORNIA. Harry R. Carter*, Gerard J. McChesney, Darrell L. Whitworth, David B. Lewis, and Deborah L. Jory (U.S. Fish and Wildlife Service, Northern Prairie Wildlife Research Center, 6924 Tremont Road, Dixon, CA 95620).

In 1991, we surveyed all colonies of 13 species of seabirds between Pt. Conception and the Mexico border, especially in the Channel Is. This area was last surveyed completely in 1975-1978 by Univ. of Calif. Numbers of Brown Pelicans, cormorants(Double-crested, Brandt's, and Pelagic), Black Oystercatchers, Western Gulls, and Pigeon Guillemots were several times high than found previously. Many new, small colonies were found mainly at Santa Cruz, Santa Rosa, and Santa Catalina islands. Tufted Puffins have recolonized Prince Island (where the last recorded nesting was in 1913) and Rhinoceros Auklets have colonized the northern San Miguel Island area for the first recorded time. Upward trends reflect true increased and more thorough surveys.

experimental egg placements and behavioral observations, I conclude that ledge accessibility, high murre nesting density, and communal defense by murres restricted gull foraging efficiency. Further, gull foraging activity was positively correlated to wind speed. I suggest that gulls preferentially foraged under windy conditions to overcome the constraints of ledge inaccessibility, high murre nesting density, and communal defense. Apparently, high wind speeds enabled gulls to access narrow ledge, low density murre nest sites.

INCIDENTAL CATCH OF MARINE BIRDS IN HIGH SEAS DRIFTNETS. Patrick J. Gould, Douglas Johnson, Terry Shaffer, and Kenton Wohl (U. S. Fish and Wildlife Service, Region 7, 1011 E. Tudor Road, Anchorage, Alaska 99503 and Northern Prairie Wildlife Research Center, Route 1, Box 96C, Jamestown, North Dakota 58401-9736).

At least 32 species of marine birds have been recorded entangled in high seas squid and large mesh driftnets of the North Pacific Ocean. This represents over 40% of the species occurring in the fishing areas. Sooty shearwaters (*Puffinus griseus)* are the most common species entangled in the nets, and ten other species are caught in moderate numbers. Total incidental catch of marine birds within these fisheries was estimated at 416,000 in 1990.

CURRENT STATUS OF ORGANOCHLORINE LEVELS IN BROWN PELICANS BREEDING IN THE SOUTHERN CALIFORNIA BIGHT. Franklin Gress*, Daniel W. Anderson (Department of Wildlife and Fisheries Biology, University of California, Davis, CA 95616) and Walter M. Jarman (Long Marine Laboratory, University of California, Santa Cruz, CA 95060)

Due to high DDE levels, reproductive success of California Brown Pelicans (*Pelecanus californicus occidentalis*) in the Southern California Bight was greatly reduced in the 1960s and early 1970s. DDE residues in pelicans and their food sources have since declined substantially but remain in chronic low levels. Reproductive rates began improving in 1974 but still average about 35% below that of other populations unaffected by DDE. Nevertheless, numbers of pairs breeding on the Channel Islands have increased to historic high levels during the 1980s; the recovery have been sustained in part by immigration from colonies elsewhere. Mean eggshell thickness is about 15% less than normal, suggesting continued effects of DDE. Reproductive rates since 1974, however, have probably been largely determined by food abundance. Lowered reproductive success may be exacerbated by chronic pollutant levels in times of food stress.

RELATIONSHIP BETWEEN FOREST CHARACTERISTICS AND THE USE OF INLAND SITES BY MARBLED MURRELETS IN W. WASHINGTON. Thomas E. Hamer* (615 State, Sedro Woolley, WA 98284), Eric Cummins and William B. Ritchie (Washington Dept. of Wildlife, 600 Capitol Way N., Olympia, WA 98504).

Surveys for murrelets were conducted using fixed station morning surveys at 54 old growth stands in the North Cascades in 1991. Twenty-nine forest variables were measured in each stand using a 25 meter radius plot. A T-test compared each forest variable between high-use and low-use stands. High-use stands were defined as those sites with greater than 10 detections per morning and having detections on at least 2 of 4 surveys. Stands with high-use were significantly lower in elevation, had a higher percent composition of Douglas-fir, Western Hemlock and Western Red Cedar and a lower percent composition of Silver fir and Mountain Hemlock. The mean DBH, aspect and number of potential nest platforms were all significantly higher than low-use stands. The suitability of the 5 conifer species available for nesting are discussed.

POPULATION STATUS AND TRENDS OF SEABIRDS AND COLONIAL WATERBIRDS IN THE SAN FRANCISCO ESTUARY. Thomas E. Harvey (U.S. Fish and Wildlife Service, 2800 Cottage Way, Sacramento, CA 95825).

Monitoring of populations of breeding seabirds and waterbirds in the Estuary has occurred within the last 10-15 years, however efforts have been inconsistent. The first comprehensive census of seabirds, conducted during 1989-1990 by the USFWS, showed the most numerous species in decreasing order to be California gull, Forster's Tern, Western Gull, Caspian Tern, and Double-crested Cormorant. California Gulls, Forster's, Caspian, and California Least Terns only became established as nesting species following the creation of artificial habitats such as salt evaporation ponds. Species which have shown recent population increased resulting from a similar ability to exploit other man-made features include the Double-crested Cormorant and the Western Gull. However, California Least and Caspian Terns and herons and egrets have recently been documented as experiencing major nesting failure due to predation by introduced red foxes.

DISTRIBUTION OF MARBLED MURRELETS AT SEA COMPARED TO OCCURRENCE OF OLD-GROWTH FORESTS IN THE SAN JUAN ISLANDS, WASHINGTON. Lora L. Lechner* (Washington Department of Wildlife, 16018 Mill Creek Road, Mill Creek, Washington 98012) and Eric B. Cummins (Washington Department of Wildlife, 600 Capital Way N., Olympia, Washington 98501).

Researchers have speculated that the distribution of Marble Murrelets on the water early in the morning may relate to nesting areas on shore. To gain more information on murrelet distribution, we conducted marine surveys for Marbled Murrelets around two of the San Juan Islands that had old-growth forests. Murrelet nesting surveys within the forests were conducted simultaneously. Our objectives were to 1) compare early morning Marbled Murrelet numbers at sea to murrelet detections within the forest, 2) determine if there was a change in number of murrelets at sea during the morning or over the breeding season, and 3) determine if any chicks were observed at sea near potential nest habitat. No murrelets were detected on the forest surveys. Low numbers were observed on marine surveys around the largest island and there was no pattern to the distribution of murrelets. There was a pattern in distribution around the second island as well as a difference in the number murrelets present at dawn versus one hour after dawn.

BIOMECHANICS AND FORAGING PROFITABILITY: AN APPROACH TO ASSESSING TROPHIC NEEDS AND IMPACTS OF BENTHIC-FEEDING BIRDS. James R. Lovvorn (Department of Zoology, University of Wyoming, Laramie, WY 82071).

Food availability for benthic-feeding birds is usually measured without regard to effects of water depth or food dispersion on food densities required for profitable foraging. I describe a biomechanical model of underwater locomotion in *Aythya* spp., and use the model and field data to estimate foraging costs and minimum food intake rates of Canvasbacks (*A. valisineria*) in two coastal habitats. Increased water depth from 0.5 to 1.5 m increased the nest cost of time spent foraging at the bottom by 43%. Biomechanics, respirometry, and data on intake rates at different food densities are used to calculate minimum food densities for profitable foraging. Density and dispersion of benthic foods, before and after the birds shifted between the two habitats, suggested that the fraction of habitat with food densities above a profitability threshold is more critical to Canvasbacks than average food density. Such factors are important in relating bird energy requirements and benthic sampling data to carrying capacity and total area of usable habitats.

MARBLED MURRELETS IN THE WALBRAN VALLEY; INLAND BEHAVIOR AND DISCOVERY OF CANADA'S SECOND NEST. Irene Manley (University of Victoria, P. O. Box 1700, Victoria, BC, V8W 2Y2) and John Kelson (Conservation International Canada, # 5 1147 Newport Ave., Victoria BC, VbS 5E6).

Marbled Murrelet use of the Walbran Valley was studied from March to September of 1991. Intensive forest surveys have documented exceptionally high use of some areas and were used, in combination with tree-climbing, to locate a second nest <200 m from a nest discovered last year. This important area of breeding habitat is currently being logged, illustrating the lack of legislative or other process needed to protect threatened and endangered species in Canada.

STATUS OF THE ASHY STORM-PETREL ON SOUTHEAST FARALLON ISLAND. Gerard J. McChesney* (U.C. Santa Cruz, 1156 High St., Santa Cruz, CA 95064), David G. Ainley, and William J. Sydeman (Pt. Reyes Bird Observatory, 4990 Shoreline Hwy., Stinson Beach, CA 94970).

A capture-recapture study was conducted on Ashy Storm-Petrels (*Oceonodroma homochroa*) on S.E. Farallon Island, California, the world's largest nesting colony, from mid-July to mid-September, 1987. Birds were attracted to and captured in mist-nets at night using tape-recorded calls of both Ashy and Leach's (*O. leucorhoa*) Storm Petrels. The computer program "CAPTURE" was used to analyze the capture data and estimate population size. We banded and released a total of 611 Ashy Storm-Petrels. Of these, only the 496 probably breeders were used in the analysis. The population estimate was 1372 breeding birds, with an approximate 95% confidence interval of 1145-1599 birds. This is considerably less than the past estimate of 4000 breeding birds in 1971-72. However, preliminary reanalysis of 1972 data gives estimates more similar to 1987. Potential problems with methodology

FORAGING BEHAVIOUR AND HABITAT USE BY AMERICAN WHITE PELICANS IN THE KLAMATH BASIN, CALIFORNIA. Leopoldo A. Moreno* and Daniel W. Anderson (Wildlife & Fisheries Biology Department, University of California, Davis, CA 95616).

American white pelicans (*Pelecannus erythrorhynchos*) often forage in groups, "herding" fish in shallow waters. In California, white pelicans usually forage in shallow lakes, coastal lagoons, agricultural ponds, and man-made recreational lakes. Water diversion for urban and agricultural consumption, exacerbated by five years of drought has affected both the quality and quality of their "natural" foraging areas. During the summers of 1990 and 1991 we studied the foraging behaviour and habitat use of white

birds of 13 species, with three species of boobies accounting for 63% of the associated birds. The mean number of birds per associated turtle was 2.3 (S.D. = 9.63; range 1-125); single birds occurred with 82% of the associated turtles. Seabirds utilized turtles the same way they use other floating objects on the ocean. i.e. as roosting platforms and to feed on fish that aggregate below them. The only species of sea turtle that birds associated with was the olive ridley (Lepidochelys olivacea), which was by far the most abundant turtle of the five species observed. Although several million olive ridleys have been harvested in the ETP over the past several decades, it is still an abundant species and continues to represent a small but contributing factor in the survivorship of ETP seabirds, especially boobies.

DISTRIBUTION AND FORAGING ECOLOGY OF PARKINSON'S PETREL IN THE EASTERN PACIFIC. Robert L. Pitman and Lisa T. Ballance* (Southwest Fisheries Science Center, PO Box 271, La Jolla, CA 92038). We studied the distribution and foraging ecology of Parkinson's Petrel (*Procellaria parkinsoni*) in the eastern Pacific during 1976-90. Parkinson's Petrels regularly associated with dolphins: of the 618 petrels we observed, 469 (76%) were associated with a total of 10 species of dolphins, on 55 occasions, with 1 to 300 petrels present. They occurred mainly with two rare dolphin species: melon-headed whale (*Peponocephala electra*) and false killer whale (*Pseudorca crassidens*). We suggested that Parkinson's Petrel is adapted to feed as a diving scavenger among large, slow-swimming dolphins, and is ill-equipped to take live prey being flushed by fast-moving tunas and other dolphin species that many of the other seabirds associated with. Parkinson's Petrel relies more on diurnal feeding than was previously thought, which is at least in part attributable to the fact that it appears to be more dependent on marine mammals for foraging than has been suggested for any other species of seabird studied to date.

PRELIMINARY COASTAL SURVEYS OF MARBLED MURRELETS IN SOUTHEST ALASKA. C. John Ralph, Sherri Miller (U. S. Forest Service, Redwood Sciences Laboratory, Arcata, CA) and Chris Iverson (U. S. Forest Service, Petersburg, AK).

The need for more precise population estimates of Marbled Murrelet populations in the Pacific Northwest prompted a cooperative pilot project during summer 1991. Investigators from various national forests, the National Park Service, and the Fish and Wildlife Service conducted boat surveys along several coastal sections to assay the feasibility of estimating the total population of the region in a comprehensive survey beginning in 1992. Surveys were conducted parallel and at right angles to the coast to determine the typical distribtion of murrelets. Results indicated that distribution appears patchy and, where present, birds are more highly concentrated than in the southern part of their range, especially at the mouths of inlets and fjords.

FACTORS INFLUENCING EVALUATION OF OCCUPANCY OF FOREST STANDS BY MARBLED MURRELETS. C. John Ralph, Brian O'Donnell, and Sherri Miller (U. S. Forest Service, Redwood Sciences Laboratory, Humboldt State University, Arcata, CA 95521).

Several variables are important in determining if a stand is occupied by murrelets resulting in observing behavior indicative of breeding. The implications of a false negative or a false positive are profound for the species and for the timber industry. These variables influence the number of surveys conducted at a given station, surveys in a stand, and years a stand needs to be surveyed. Among the important variables we examine are: the average detection distance for visual and auditory detections; the effect of weather on detections; the effects of stand density (and station placement) on the number of occupied behaviors observed; and the efficiency of varying lengths of surveys during a given morning. We also examine the interactions of the probability of detecting no birds in an occupied stand at varyng mean numbers of detections, number of survey mornings, and frequencies of occupied behaviors.

BOOBIES AND BOMBS, BRIDGES AND CORMORANTS. Mark J. Rauzon, (Marine Endeavors, Box 4423, Berkeley, CA 94704)

Populations of red-footed boobies and double-crested cormorants are increasing in number and nesting on man-made structures.. As these expanding populations of Pelacaniformes saturate natural nesting colonies, they move into conflict with human land use. Two examples are presented. Cormorants populations in the San Francisco Bay have doubled in recent years and have affected operations on the bay bridges where they nest. Red-footed boobies have increased in the Main Hawaiian Island and expanded their colony on the artillery range of the Kaneohe Marine Corps Station. Traffic and fires, respectively present unique mortality factors as well as management opportunities of these pelecaniformes colonies.

MOULT OF THE HUMBOLDT PENGUIN *Spheniscus humboldti* J.C. Riveros-Salcedo* and L. Paz-Soldan (APECO, Parque Jose de Acosta 187. Lima 17. Peru).

Humboldt Penguins living in the southern coast of Peru moult at the beginning of the year before the nesting season. Moult lasts from sixteen to twenty-three days. Most of the adult birds (93%) moult during January and middle February. Juveniles do not have a restricted moult season. During the moult birds spent the day ashore resting in the beaches and caves near the shoreline. A few birds go into the sea for

site fidelity is not complete. The likelihood of a penguin selecting a new nest may be influenced by several factors, including nest quality, previous breeding success, and site fidelity of the mate. Some nest changes are forced, either by occupation of the nest by other penguins, or by loss of nest area due to natural or human-caused alteration of habitat. I examine the effects of dislocation and the factors that influence the subsequent nest choice of penguins that have lost their previous nest. Understanding site fidelity and habitat choice may be of help in conservation of this and similar species as natural habitats are increasingly modified by humans.

SEASONAL AND YEARLY VARIABILITY IN FOOD DELIVERED TO COMMON MURRE CHICKS ON S.E. FARALLON ISLAND. Craig S. Strong*, David G. Ainley, Robert J. Boekelheide, Stephen H. Morrell, and Harriet R. Huber (Point Reyes Bird Observatory, 4990 Shoreline Hwy. Stinson Beach, CA 94970).

From 1974 to 1977 about 105 Common Murre (*Uria aalge*) nest sites were observed each year during the nestling period on S.E. Farallon Is. NWR. Prey size and delivery time to chicks at numbered sites where recorded throughout daylight hours on selected days. Here, these data are analyzed with regard to two questions: 1) How does provisioning change with chick age, and 2) How much food is required to bring chicks to fledging age? For
all years, provisioning rate increased with increasing chick age when measured as food mass per day delivered to chicks. The correlation of number of prey delivered per day with chick age was not significant in most cases, due to fewer but larger fish being delivered to older chicks. Mass of food delivered to chicks, averaged by year, ranged from 25.1 gm/day in 1976 to 51.7 gm/day in 1977. Sources of variability in amount delivered and their relation to fledging age are discussed.

AGONISTIC BEHAVIOR OF BLACK GUILLEMOTS ON COOPER ISLAND, ALASKA: PRELIMINARY RESULTS. Robert Suydam* (North Slope Borough-Wildlife Management, Box 69, Barrow, AK 99723) and George Divoky (Institute of Arctic Biology, Univ. of Alaska, Fairbanks, AK 99775)

The breeding behavior of Black Guillemots was examined on Cooper Island, Alaska during 1988 and 1989. Focal animals were marked and of known breeding history. We present preliminary results of the pattern of agonistic behaviors during the prelaying and incubation stages of nesting for 1989. Prelaying males have a greater rate of agonistic behaviors than do females regardless of experience. During incubation lst-time breeding males have a greater rate than do lst-time breeding females and experiences males. Gonadal development may explain this later peak in agonistic behaviors of lst-time breeding males.

INTERANNUAL SURVIVAL OF COMMON MURRES ON SOUTHEAST FARALLON ISLAND, CALIFORNIA. William J. Sydeman (Point Reyes Bird Observatory, 4990 Shoreline Highway, Stinson Beach, CA 94970).

The survival of color-banded Common Murres breeding in two colonies on Southeast Farallon Island, California was studies from 1985 - 1991. Colony I is large (~ 1500 pairs) and stable, having grown extensively during the 1970s. Colony II is small (~ 50 pairs) and growing, having been established in 1985. Survival of adult breeding birds averaged 93.6% in Colony I (n=327) and 83.0% in Colony II (n=110). In Colony I survival was lowest between 1986-87 (88%) and between 1990-91 (89%). In Colony II survival was lowest in 1989-90 (65%); this dramatic mortality was due to Peregrine Falcon predation during winter. At Colony I, male survival for the period was 100% (n=76), and female survival averaged 94.6% (n=157). At Colony II, male survival averaged 76.9% (n=52) and females averaged 82.8% (n-58). Sex differences were significantly different at Colony I (P=0.04), but not at Colony II (P=0.44). Differences between sites may be due to density, habitat, or age-structure.

THE CONSERVATION OF SEABIRDS IN ALASKA AND SOVIET FAR EAST. Kenton D. Wohl* (U.S. Fish and Wildlife Service, 1011 East Tudor Road, Anchorage, AK 99503) and Alexander Ya. Kondratyev (Institute of Biological Problems of the North, K. Marx Street 24, Magadan 685010 USSR)

About 50 million breeding seabirds occur in Alaska at about 1,360 colonies. Alaska's breeding seabirds represent about 96% of the breeding seabirds in the continental U.S. The population of breeding seabirds on the Soviet side of Beringia has been estimated to be between 25 and 30 million birds at about 1,000 colonies. Many species likely forage and winter in the same areas in the North Pacific and Beringia and are subject to similar human threats. To effectively manage seabird populations that cross international boundaries requires coordination and cooperation in research, conservation, and management activities. This paper describes existing laws and institutional structures in the United States and Soviet Union for protecting and managing the vast seabird resources in Beringia. Joint U.S.-U.S.S.R. proposals to create in Beringian Seabird Working Group, Beringian International Seabird refuge, Beringian Seabird Databases, and Beringian Seabird Monitoring Program as means to promote and facilitate cooperative and coordinated research, management, and conservation program for seabirds of Beringia are described.

Other Seabird News

1992 CWBS Annual Meeting and Special Symposium

The Colonial Waterbird Society (CWBS) is pleased to announce that their 1992 Annual Meeting will be held in Oxford, Mississippi, USA, 14-18 October 1992. The central theme of the scientific program is to be population biology of colonially-breeding waterbirds. As part of this aim, there will be a one-day symposium entitled "The Double-crested Cormorant: Biology, Conservation & Management." The format for the symposium will include both invited and contributed papers in six subject areas: population history, population dynamics, feeding ecology, fisheries and aquaculture, cormorant and human interactions, and policy, mangagement, and future research. The number of oral contributed papers will be limited, but there will be extensive opportunities for contributed poster presentations. The proceedings of the symposium are to be considered for publication as a supplemental issue of *Colonial Waterbirds*. Researchers and managers with extensive data in any of the above subject areas are urged to contact both Dr. D. V. Weseloh, CWS, Canada Centre for Inland Waters, Box 5050, Burlington, Ontarior, Canada L7R 4A6 (phone: 416-336-4968; fax: 416-336-6434) and Dr. D. N. Nettleship, CWS, Bedford Institute of Oceanography, Box 1006, Dartmouth, Nova Scotia, Canada B2Y 4A2 (phone: 902-426-3274; fax: 902-426-7827) concerning additional details and a position on the program. Other suggestions for mini-symposia or special topics related to population biology of colonial birds are also welcome and should be communicated to Dr. D. N. Nettleship, Chairman, 1992 CWBS Scientific Program as soon as possible.

SEABIRD SPECIALIST GROUP NEEDS YOUR HELP

The ICBP/IUCN Seabird Specialist Group has now produced two ICBP technical volumes on the status and conservation of the world's seabirds, and another volume on the management of seabird islands is almost ready to go to press. Essentially we now have the data to produce an action plan for the seabirds of the world. This plan would specify which species, colonies, islands, or marine areas most need international conservation assistance, what sorts of data should be collected to monitor future porblems, and what international programs, treaties, or laws are needed to protect seabirds. The plan would also be used by ICBP to raise the necessary funds for seabird conservation programs and to encourage decision-makers to include seabirds in their considerations.

Seabirds occupy a waide range of latitudes and marine environments that differ greatly in their local conservation problems, so writing a plan will require contributions from scientists and conservationists of many nations. This is an invitation to participate in this process.

You can help in several ways: first would be to answer the questions listed below; second would be to volunteer to serve on committees that would write or review drafts of different chapters; and third would be to make the investment of time, energy, or resources to help implement the plan.

These are the questions we need help with.

—What areas of seabird conservation should an inter national action plan address?

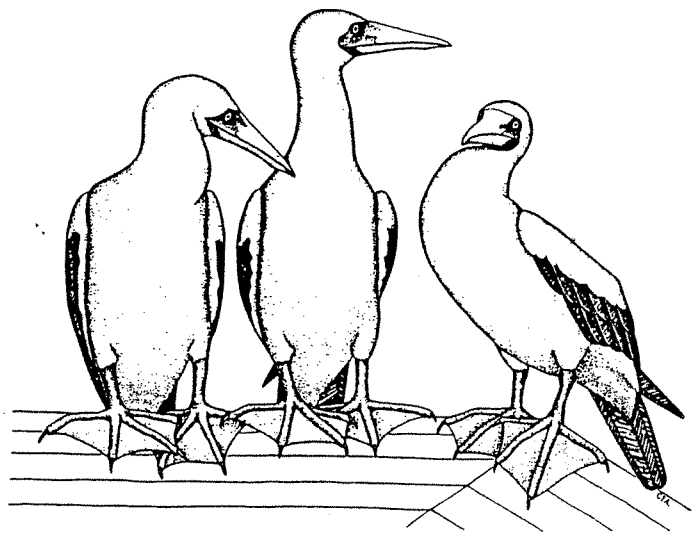
—Should we attempt a species approach, or a site approach, or a theme approach (egging, seabird/fisheries conflicts, oil, etc.)?

—What sorts of information do we need to collect to assess or monitor threats? How should this in formation be stored and made available?

—How can we ensure that the action plan is carried out?

—How do we assess the plan's effectiveness and how do we update it?

—How much of this should or could be done by an international specialist group and how much by local or regional seabird groups?



Speakers at the Glasgow conference agreed that the recent seabird breeding failures in northern Britain have been caused by a crash in sandeel stocks. No one has been able to conclude whether fish declines have been due to oceanographic conditions or fishing pressure. However, the current British work has already contributed major insights to the analysis of seabird breeding failures. For instance, when surface-feeding seabirds in Shetland were unable to obtain forage fish, this reflected low fish populations within the foraging range of the birds, not just lack of availability because fish stayed below the surface. On the other hand, diving seabirds were able to obtain normal proportions of forage fish in the diet, even at relatively low fish densities, by an increase in foraging effort. Diving birds have been observed to obtain fish while they are unavailable to surface-feeding birds in several previous cases (e.g. Belopolskii 1961, Ecology of Sea Colony Birds of the Barents Sea, Jerusalem, Israel Progr. Sci. Transl.; Piatt et al. 1991, Can. Wildl. Serv. Occ. Pap. 68:21). The British work is now elucidating behavioral mechanisms by which diving birds can compensate for low prey densities. We may even be able eventually to predict prey densities at which diving birds also would fail.

There are many parallels between current concerns for seabirds in Britain and in Alaska, including our lack of information on the relative roles of climate and fisheries in changing food availability to seabirds. Fishing pressure has interacted with oceanographic changes (among other factors) to depress Peruvian seabird populations in the 1960s (Schaefer 1970, Trans. Amer. Fish. Soc. 99:461) and Norwegian **Common Murre** populations in the 1980s (Vader et al. 1990, Stud. Avian Biol. 14: 175; Vader, pers. comm.). Although the factors and interactions affecting each system are unique, it would seem that climate and fishery pressure should both be considered when studying any major decline in a seabird population.

Some topics of other papers at the conference were seabird life history traits (R. Ricklefs), seabird population regulation (J. Coulson; he suggested that colony size is regulated, rather than population size per se), energetic investment by breeding seabirds (G. Gabrielson, also M. Asheim and R. Barratt), recruitment and philopatry of murres (D. Halley; recruitment of yearly cohorts was proportional to good weather during the chick-rearing of each at sea), sperm competition in auks (J. Briskie, S. Sealy, and J. Piatt), and breeding strategy of albatrosses (J. Croxall). I also attended a meeting of the international coordination group for the Seabirds at Sea Database. The group is compiling data from aerial and ship-based transects collected by 8 nations, and they are working on an atlas of oil vulnerability for all North Sea seabirds.

A footnote: the Nature Conservancy Council (the Scottish equivalent of the Fish and Wildlife Service) was renamed Scottish Natural Heritage in April 1992.

Scientific Names are for the Birds

Jobling, J. A. *A Dictionary of Scientific Bird Names.* New York: Oxford University Press, 1991. 272 pp. $29.95 (cloth).

How many times have we wondered what scientific names refer to? Traditionally, all biologists understood the significance of scientific names; however, few field ecologists today are familiar with taxonomic literature. Did you know that *Sterna* is Old English for tern, or that *Phalacrocorax* is from the Greek: *Phalakros* = bald and *korax* = raven? How many bird biologists know that Sula nebouxii comes from Sula, the Scandinavian name for the Northern Gannet and nebouxii, which refers to Adolpe Simon Neboux, a French surgeon, naturalist, and explorer in the 1800s? In examining J. A. Jobling's *Dictionary of Scientific Bird Names,* I have encountered every name I have looked for. The book is complete and for many of us will be a useful addition to our reference libraries when we wish to know the origins of the scientific names of the birds we deal with.

Jobling's *Dictionary* is short and concise. Definitions of names borrowed from other languages are adequate. References to birds named for early biologists are brief and to the point. For instance, the citation for *nebouxii* simply says, "After Adolphe Simon Neboux (fl. 1840) French surgeon, naturalist, and explorer." For those who want more detailed information, the entries may be too brief; however, they do provide a starting point for further investigation. For those who simply want basic definitions, this will be a nice reference book.

Malcolm Coulter

Blood Samples Wanted

Richard Bradbury of Oxford University (Department of Zoology, Edward Grey Institute of Field Ornithology, South Parks Road, Oxford OX1 3PS) is collecting blood samples from gulls as part of his PhD work. Bradbury and Dr. Richard Griffiths would like to sample as many taxa as possible for mitochondrial DNA analysis. They are looking for people who might be able to donate samples. If you would like to help, let them know which species you have or are likely to acquire so that they can supply you with a preservative buffer and sample tubes for the collection of blood. Bradbury and Griffiths would be very grateful for any donations and will acknowledge contributions in any publications resulting from their work. They are particularly interested in the following species:

(American) Herring Gull - *Larus (argentatus) smithsonianus*
Great Black-back Gull - *L. marinus*
Glaucous-winged Gull - *L. glaucescens*
Iceland Gull - *L. glaucoides*
Kumlien's Gull - *L. (glaucoides) kumlieni*
Glaucous Gull - *L. hyperboreus*
Western Gull - *L. occidentalis*
Yellow-footed Gull - *L. livens*
Dominican Gull - *L. dominicanus*
Slaty-backed Gull - *L. schistisagus*
Thayers Gull - *L. thayeri*
Ring-billed Gull - *L. delawarensis*
Mew Gull - *L. canus*
California Gull - *L. californicus*
Laughing Gull - *L. atricilla*
Franklin's Gull - *L. pipixcan*
Bonaparte's Gull - *L. philadelphia*
Little Gull - *L. minutus*
Ross' Gull - *Xena rosea*
Ivory Gull - *Pagphila eburnea*
Black-legged Kittiwake - *Rissa tridactyla*
Red-legged Kittiwake - *R.brevirostris*

Seabird Group Offices Destroyed by Firebombing

The animal ecology research world has been shocked in Scotland by the recent firebombing of the Instiute of Terrestrial Ecology's research station at Banchory. The ensuing fire destroyed much of the offfices of Mike Harris and Sarah Wanless, both Seabird Group Executive Committee members. The station's fine library was also lost. The bombing was carried out by terrorists following the policies of the Animal Liberation Front. These policies seem particualry stupid in this instance as the work of this research station was targeted towards the conservation of animals in the wild and the damage done will slow down these conservation efforts. Mike and Sarah have begun the painful task of limiting the damage to their work and rebuilding their reprint collections. Anyone who wishes to help might consider sending reprints.

Mark Tasker

1993 Annual Meeting

The 1993 Annual Meeting will be held in Seattle from 9-13 February and will celebrate PSG's twentieth anniversary. Lora Leschner is chair of the local committee. PSG members who live in the Pacific Northwest and would like to help with meeting arrangements and other activities should write or call Lora.

Lora Leschner
Washington Dept. of Fish and Game
16018 Mill Creed Blvd.
Mill Creek, WA 98102
Phone: 206-774-8812

Two meetings will be held the day before the annual meeting begins—PSG's Marbled Murrelet Technical Committee Meeting and a meeting on Seabird Data Bases, jointly sponsored by Minerals Management Service and the U. S. Fish and Wildlife Service. Kim Nelson is in charge of the Marbled Murrelet Technical Committte Meeting and Palmer Sekora is in charge of the Seabird Data Base Meeting. Both meetings will be held at the Westin Hotel in downtown Seattle.

PACIFIC SEABIRD GROUP EXECUTIVE COUNCIL 1992

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