



# The Antarctic Society

VOLUME 22-23

OCTOBER 2022

No. 1

## PRESIDENT

Liesl Scherthanner  
P.O. Box 3307  
Ketchum, ID 83340  
[antarctican.org.president@protonmail.com](mailto:antarctican.org.president@protonmail.com)

## VICE PRESIDENT

Mark Leinmiller  
5849 Riverstone Circle  
Atlanta, GA 30339  
[leinmiller@bellsouth.net](mailto:leinmiller@bellsouth.net)

## TREASURER

Thomas Henderson  
35 Cherry Street #701  
Burlington, VT 05401  
[webmaster@antarctican.org](mailto:webmaster@antarctican.org)

## SECRETARY

Joan Boothe  
2435 Divisadero Street  
San Francisco, CA 94115  
[hoodooskr@aol.com](mailto:hoodooskr@aol.com)

## DIRECTORS

Dale Andersen  
Guy Guthridge  
Matthew Jordan  
Valmar Kuroil  
Michele Raney  
Ron Thoreson  
Stephen Wilson

## WEBMASTER

Thomas Henderson  
(address above)

## ARCHIVIST

Charles Lagerbom  
[clagerbom@gmail.com](mailto:clagerbom@gmail.com)

## SOCIAL MEDIA DIR.

Lesley Urasky  
[yamcam@gmail.com](mailto:yamcam@gmail.com)

## NEWSLETTER CO-EDITORS

Jeff Rubin  
[rubinwiles@gmail.com](mailto:rubinwiles@gmail.com)  
Dick Wolak  
[wolak66@gmail.com](mailto:wolak66@gmail.com)

## MEMBERSHIP

New members welcome!  
\$13/yr, plus more for mailed newsletter. See 'About Us' on website to join.

*"BY AND FOR ALL ANTARCTICANS"*

[www.antarctican.org](http://www.antarctican.org)  
[www.facebook.com/antarcticansociety](https://www.facebook.com/antarcticansociety)

It was a Smashing Success.....1	Like Father, Like Daughter..... 6
Sexual Harassment Rife in USAP..... 2	Richard E. Byrd Legacy.....7
Virtual Lecture on December 6..... 3	Historic Artefacts Returned..... 9
Arpad Joseph Toth (1924-2022)..... 3	Science on USCG Icebreakers..... 9
Gaining Steam: Artists & Writers..... 4	Warren M. Zapol (1942-2021)..... 10
Review: "Antarctic Atlas"..... 5	Emperor Penguins are Protected..... 11

## IT WAS A SMASHING SUCCESS

A look back at the mid-August Antarctic Society Gathering in Burlington, VT evokes a feeling of enjoyment, camaraderie and time well spent. And, for a group that was well oriented to dealing with the exigencies of cruel nature, the weather could not have been better throughout all three days. I will quickly recount the highlights here, but a far better, fully illustrated, summary of the event can only be experienced on the Society website. There, Tom Henderson has provided the full chronology of the gathering along with pictures provided by several of the participants and videos of many of the presentations.

Participants who arrived by Thursday (August 11) were treated to the nearby Shelburne Museum prefaced by a group orientation by a museum curator. With 39 buildings spread out over 45 acres, it provided a good reason for another visit to Burlington in the future.

The organizing committee did a remarkable job of providing a broad range of relevant presentations. There were twelve over the two days with topics covering Antarctic history, art, tourism, engineering and icebreaker support, current USAP, and a very moving Memorial Film remembering those we've lost over the past several years.

The auction committee also provided a fascinating event, anchored by Jeff Rubin as a very capable (and profitable) auctioneer. Antarctic-themed articles of all kinds were swiftly bought up, with a week at Paul Dalrymple's home in Port Clyde, ME commanding the largest bid of the day. The generosity of bidders (more than \$5,000 raised) assured that financially, the Gathering would be in the black with some working capital to invest in planning for the next gathering.

Social events were exceptional. The Friday evening reception at a lakeside science center provided for great socializing and a spectacular sunset. The following evening was spent aboard the tour boat, *Spirit of Ethan Allen*, with more great food enjoyed on a flat lake and the enduring perfect weather. The Sunday morning picnic at nearby North Beach was the perfect wrap-up to a memorable weekend!

Dick Wolak, Co-Editor

## Sexual Harassment Rife in USAP

by Jeff Rubin

"Every woman I knew down there had an assault or harassment experience that had occurred on ice," said one person interviewed (p. 32) in a 274-page report released Aug. 25 that says sexual assault, stalking and sexual harassment are widespread throughout the U.S. Antarctic Program.

Some 3,000 people - contractors, military personnel, scientists - deploy to the continent through USAP each year; about one-third are women.

"I know none of this is news to you, it's just a known fact around station. It's so self-evident that [it's] barely worth speaking out loud. [Sexual assault and sexual harassment] are a fact of life [here], just like the fact that Antarctica is cold and the wind blows." (p. 33)

"I have been told by many people...that I should never go to the South Pole without a partner because I'll be repeatedly harassed because everyone is just looking to hook up with someone for the season. That's also been my experience here: as soon as you are single, if you go to the bar...even [when you're] not at the bar, you're considered fair game. [You're] prey." (p. 34)

"Hell, my very first day at McMurdo I was told to stay clear of Building [X] unless I wanted to be raped." (p. 34)

Interviewees recounted a wide range of women's experiences that included men sitting in a group (including female colleagues) discussing "what brothels they prefer" and why; relentless questions at work about their dating status, sexual preferences, and even "what sexual positions [they] enjoyed;" a male supervisor attempting to break into women's bedrooms using his master keys; and a sexual assault on station during which the assailant slammed the victim's head into a metal cabinet and then attacked her sexually. A male interviewee also reported incidences of being groped by male and female colleagues; other men described hearing about female supervisors sexually harassing their male subordinates. Investigators, however, received far fewer reports of male victims; reports of

harassment of women were much more frequent and severe.

"I left because [I was] sexually assaulted. I didn't report it because, based on everything I'd seen so far, I assumed my company would fire me if I did." (p. 35)

"There was a woman [at McMurdo] who told me she carried a hammer around with her. And she is constantly changing rooms because she is so freaked out." (p. 37)

"I was thoroughly warned before ever spending time in McMurdo. I just make sure I never ever go to a party or bar unless I'm with a group of people I trust." (p. 37)

"People on station fear, and rightfully so, that if they are harassed or assaulted and report it, they will be the ones who will be going home. When things happened on ice, the number one thing I heard was, 'don't report it or you will go home and be blacklisted from the program'...I saw this happen, people who stood up and reported that something had occurred and then they were fired and sent off ice." (p. 47)

"A friend once had a guy choke her while his penis was in his hand, threatening her to call me to have a threesome with them (I had turned the guy down several times over the previous weeks) or he wouldn't stop. She told me but [she] refused to report it. I reported it anyway, but they just kept the guy around for a couple months while figuring out what to do. I avoided public places and took random routes to my dorm so he couldn't follow me." To "remedy" the situation, the interviewee said, the employer "ended up sending him to the South Pole for the rest of the season as a solution." (p. 47)

"Like a lot of people, I started in the [McMurdo] galley. Gender-based harassment is a daily occurrence for anyone who is female...the harassment endured by the stewards was an open secret - the station knows about it but no one's working to change it." (p. 101)

"There are a million examples of guys being obnoxious and inappropriate," Joni Zisman, who quit her job as IT manager at McMurdo, told *Science* ("U.S. Antarctic Program has ignored sexual harassment," Sept. 16, 2022). "But what really pissed me off," Zisman continued, "was that

leadership has spent the past 2 decades laughing it off and retaliating against anybody who has tried to make things better." Zisman is one of four senior employees who left the Antarctic support contractor recently.

Elaine Hood is another. She left in July [Editors' note: actually, it was August] after more than 20 years in corporate communications for a series of lead contractors. "The unwritten rule ever since I started in the 1990s has been to keep your mouth shut...or you will be blacklisted," she told *Science*.

To read the entire final report, go to: [USAP SAHPR Report.pdf \(nsf.gov\)](http://www.usap.gov/SAHPR_Report.pdf).

### **Next Society Virtual Lecture Dec 6: "The British Graham Land Expedition: Cambridge College Halls in the Far South"**



Scott Polar Research Institute <http://www.spri.cam.ac.uk/>

**BGLE Aeroplane and boat "Stella" 1937  
Source: Scott Polar Research Institute Freeze Frame  
Historic Polar Images**

The Antarctic Society is hosting a Virtual Lecture via Zoom, December 6, 2022, at 6:00 p.m. EST (12:00 PM New Zealand time) by Matt McArthur. Concurrent to Richard Byrd's all singing, all dancing Antarctic expeditions and Lincoln Ellsworth's (Sir Hubert Wilkins') small, tightly focused and well-funded forays, John Rymill led a small team south on a tiny budget. The British Graham Land Expedition achieved more than its contemporaries, whether we address outcomes on a per capita or on an outright basis. USNR-Ret

The BGLE operated efficiently and effectively, their competence precluding the sort of tragedies or misadventures that made other expeditions stick in the popular imagination.

This presentation aims to do its small part in fostering greater awareness of what the heirs of James Wordie and Gino Watkins and the precursors to the FIDS achieved during their two years in the far south.

Matt McArthur's fascination for Antarctica steered his marine biology career ever further south: from Melbourne to Dunedin; and from Dunedin to Scott Base. Two austral summers working as a diver under the sea ice around Ross Island didn't scratch an itch so much as induce a rash and he returns to Antarctica in whatever capacity he can find to fill at every opportunity. Matt began publishing his understanding of Antarctic history through the monthly podcast series "Ice Coffee" a decade ago and sees at least another decade ahead to bring the narrative up to the present day. He lives in Melbourne with his wife from Detroit and their two teenage children from planet Puberty.

### **Arpad Joseph Toth, 1924-2022**

by Lesley C. Arnold



**CDR Arpad Joseph Toth, USNR-Ret.**  
Arpad Joseph Toth, Commander USNR-Ret, passed away peacefully at the age of 97 on Friday, March

4th, 2022, at The American House in Keene, NH, surrounded by family. Arpad was born in Tonawanda, NY, in 1924, to the late Emma (Szely) Toth and Arpad G. Toth who immigrated to the United States from Hungary after WWI. His parents ran a general store in Buffalo, NY, and when his father took a job in Canada, the family lived for a while in Edmonton, Canada. Arpad graduated from Riverside High School in Buffalo, NY, in 1941. After graduation he entered the US Navy officer training program and Naval flight school during WWII. Remaining in the Naval Reserves, he attended the University of Buffalo where he met his wife, Marjorie Lois Toth. At UB, Arpad lettered in billiards and wrestling and was in Sigma Alpha Nu fraternity; he graduated in 1948 with a degree in Education.

Recalled to active duty in 1951 he flew carrier-based planes in the Korean War. Subsequently, he became a landing signal officer on several Navy aircraft carriers while also becoming a flight school instructor teaching pilots to land on carriers. In the 1960s he was part of Operation Deep Freeze in Antarctica as the Operations Officer in charge of Williams Field, McMurdo Sound. Mount Toth, an Antarctic mountain, is named for him in honor of his service. He was honorably discharged from the Navy as a Commander in 1968, having earned the Antarctica Service Medal and the National Defense Service Medal.

While serving in the Navy, Arpad and his family lived in New York, Florida, Virginia, Minnesota, Rhode Island, Maryland, New Zealand, and Massachusetts (where he earned a Master's Degree in Education and Counseling from Boston University). In the 1970's he settled down in southern New Hampshire. As a lifelong learner, he took advantage of Keene State College in subjects as varied as cinema studies and science and was instrumental in helping to set up the college's first Computer Science course in the 1970s. He was a computer science instructor at Keene State for over 10 years.

Always a fitness enthusiast, Arpad swam, golfed, and played handball and squash. In 1996, as a racquetball player, he was ranked #6 in the Head Racquet Sports Nationals for men aged 70+. As a Justice of the Peace for the state of New Hampshire, he officiated many weddings, including five of his

children and grandchildren.

Believing in giving back to the community, he volunteered at the Keene Community Kitchen for many years managing their computer systems, leading book chats and helping veterans. Passionate about civil rights, for over 20 years he wrote letters to the editor at the Keene Sentinel including conversations with "Dunn C. Head." Imploring people to think critically, each letter ended with, "There is still nothing, absolutely nothing, greater than a thinking human being whose nearest evolutionary relative is the chimpanzee." He was a member of the Humanist Association and American Atheists and for many years led a discussion group called The Dissenters.

While living on Wilson Pond in Swanzey, NH, he enjoyed spending time with his grandchildren and great grandchildren. He enjoyed feeding the fish that came to his dock, and the many birds that came to his feeders. A skilled pilot, he flew his Cessna plane out of Dillant-Hopkins Airport into his late 70's.

He had a twinkle in his eye, often a Manhattan in his hand, a Werther's Original for all, and words of wisdom for his friends and family: "Do good work," and "Goodnight and good luck." He is predeceased by his brother Carl Toth and his former wife Marjorie Lois Toth. He is survived by his son Jeffrey A. Toth and wife Christie of Providence, RI; his daughter Lesley C. Arnold of Easthampton, MA; daughter Tracey A. Bowman Kallman and husband Seth of Harrisville, NH; seven grandchildren and fourteen great grandchildren. A celebration of his life took place following a military burial at the Fort Devens Post National Veterans Cemetery in Devens, MA on July 1st, 2022 at 10 am. Any donations in Arpad's honor may be made to Hundred Nights, Inc, PO Box 833, Keene, NH 03431 ([hundrednightsinc.org](http://hundrednightsinc.org)), or to The American Civil Liberties Union ([ACLU.org](http://ACLU.org)).

### **Gaining STEAM: Artists and Writers in Antarctica**

by Kirsten Carlson, Co-Chair, Antarctic Artists and Writers Collective

*This article summarizes a talk delivered at the Society's Gathering in Vermont on 12 August 2022.*



*Ice is the beginning, and ice is the end of Antarctica.* –Stephen Pyne, *Adequate Earth*

Since the 1980s, over 100 artists, writers, composers and performers have gone to the seventh continent, supported by the National Science Foundation (NSF) Antarctic Artists and Writers Program. As a result, thousands of paintings, poems, photographs, stories, sculptures, films, songs and musical compositions have been created and shared with audiences around the world. But it wasn't until 2019, when thirteen participants of the NSF program met and began to collaborate, that 50 years of collective creativity began swirling with all new potential.

In December 2020, we launched the Antarctic Artists and Writers Collective (AAWC). Our mission is to inspire and educate the public about Antarctica and its scientific exploration through collaborations in the arts among participants that have traveled to Antarctica through the NSF. Visit our website ([www.aawcollective.com](http://www.aawcollective.com)) to explore the work of 75 different artists, view past and future events and take a deep dive into some of our individual projects. Before you leave, don't forget to sign up for our newsletter and follow our social media links so you can stay up to date with us.

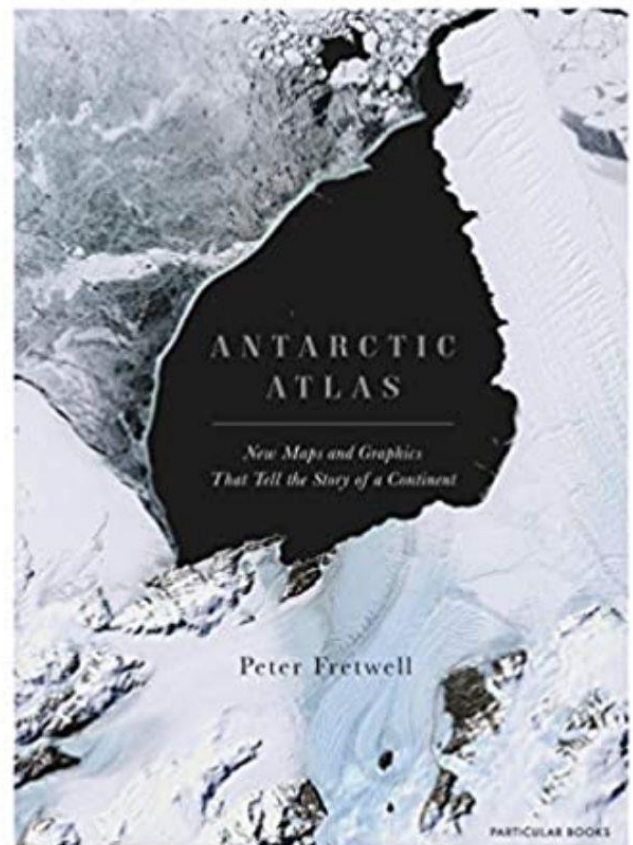
You can also explore our first collaboration from the comfort of your home — *Adequate Earth* ([www.aawcollective.com/adequate-earth-exhibition](http://www.aawcollective.com/adequate-earth-exhibition)). The online exhibition is organized into four themes: *Visual Dissonance and Artistic Practices* discusses the impact of the perceptual and cognitive challenges of an extreme environment; *Turning Space into Place* investigates how artists deployed to Antarctica reflect on the history of exploration, as well as place-making and community-building strategies; *Exploring the Natural Laboratory* explores how artists relate and communicate the scientific research they encounter on the continent ; and *Stories of Change* discusses how artists, writers, and musicians contribute to communicating the importance of Antarctica. With this exhibition and future events, we are finding creative ways to transport audiences to Antarctica while being able to remain on their own continents.

Other pathways we're exploring include how we can collaborate with The Antarctic Society. And,

developing synergistic collaborations with future participants of the Antarctic Artists and Writers Program. The National Science Foundation is restarting the program, after an almost three-year hiatus, as part of their new education and arts initiative called Polar STEAM (Science, Technology, Engineering, Arts and Mathematics). Collaborations between Antarctic artists, writers, composers and performers are not only gaining steam, they are creating a growing global Antarctic constituency.

### ***Antarctic Atlas* book review**

by Guy Guthridge



Back in 2020, Particular Books (of Random House, UK) published Peter Fretwell's *Antarctic Atlas: New Maps and Graphics That Tell the Story of a Continent* (208 pages). In August 2022 the 9½x12 inch hardbound volume was new to me when I nailed a copy at an auction during the Society's Gathering in Burlington, Vermont.

I kept turning the pages of this happy buy on the way home to Maryland, because it uses fresh graphics, sprightly text, and lovely photographs to tell a story that is familiar to most Society members. Fretwell is a cartographer and scientist at the British Antarctic Survey.

The volume has 70 sections in nine chapters: geography, ice, land, atmosphere, sea, wildlife, people, exploration, and future. The author gets creative with section titles, like “size matters,” “time machine,” and “international antics.”

Fretwell’s sense of fun comes as early as section 2, which, with a full-page graphic, describes what he identifies as the seven poles. Geographic, geomagnetic, and magnetic are familiar; then he shows us points (they aren’t “poles”) of inaccessibility, isolation, mass, and ignorance, the last “a term coined for the area we know the least about.” The two-page section is insightful and a nice refresher.

A vivid graphic distinguishes ice sheets from ice shelves. I wanted a better demonstration of the difference between land ice and sea ice, because the two types can confuse first-time tourists and others.

Don’t look for footnotes; there aren’t any. A three-page section near the back called “references, data sources, and further reading” is too cavalier for me.

I sensed parochialism. Section 54, “Antarctic skies,” says, “Two types of aircraft dominate the internal flight network: the Basler BT-67 and the de Havilland Twin Otter.” The ski-equipped LC-130, which revolutionized placing big summer camps almost anywhere and enabled otherwise infeasible international projects, gets no mention (but then only the United States has such).

The familiar pieces of pie showing the seven claims of sovereignty from the coast to the South Pole get their showing in section 49, along with the explanation that they are on hold “while the [Antarctic] treaty lasts. Governments often look at the long term in foreign affairs and want to keep their historical claims just in case.” That’s a fair statement in a book published in one of the claiming nations.

“Who lives there?” (section 47) is an uncomfortable construct. Forty narrow wedges or

pie slices, as if they were “claims” all the way to the Pole, are allocated to that number of coastal and inland stations; outer or northern limits correspond to the populations of each. A fat wedge labeled “unclaimed sector” shows no stations even though the huge, multiyear International Thwaites Glacier Collaboration is in it.

Section 4, “A continent of many lands,” crosses a line. It depicts 15 named “Lands,” most of whose designations have been in use for decades or centuries. It assigns to all but four a wedge to the South Pole because, Fretwell states, “the inland extent of each land was never specified.” The misleading graphic has little to no basis in the historical record. Wilkes Land, to pick a place named for an American, commemorates exploration by someone who never went ashore, and the United States Board on Geographic Names carefully describes the feature as “fronting on the Indian Ocean” because Charles Wilkes in a sea voyage “recognized the phenomenon of the continental margin over a distance of 1,500 miles of coast.” Queen Elizabeth Land, a new name that Argentina and Russia formally protested when the United Kingdom designated it “on the Queen’s Diamond Jubilee in 2012,” gets a fat claim-like pie slice.

My anti-claims rant is about just a couple of percent of an innovative and enjoyable book that deserves a place in your lap and on your shelf.

### **Like Father, Like Daughter: Antarctic Odysseys of Two Generations**

by Lisa Crockett

*This article summarizes a talk delivered at the Society’s Gathering in Vermont on 12 August 2022.*

My father, Freddie Crockett, was a young Harvard student when he heard that Commander Byrd was mounting an expedition to Antarctica. He jumped at the opportunity to leave college in 1927, and train with Arthur Walden for dog handling and sledging at the Chinook Kennels in Wonalancet, NH. Also in training were two of my father’s friends, Eddie Goodale and Norman Vaughan; the three of them would become known on the first Byrd expedition as the “three musketeers.” The

three musketeers, along with Mike Thorne and John O'Brien were selected to accompany Dr. Laurence M. Gould on the 1500-mile sledging trip to explore the geology of the Queen Maud Mountains, and radio weather conditions to Little America in anticipation of the flight to the Pole. In addition to dog handling, Freddie was tasked with being radio operator. As Gould wrote about one of the scientific achievements in *Cold*, Thorne, Crockett, Goodale, and Gould herring-boned on skis to a saddle on Mount Nansen where they observed Beacon sandstone the same rock from Victoria Land described by Ferrar during Scott's *Discovery* expedition, confirming in Gould's words "...the most stupendous fault block mountain system in all the world."



**Byrd I Geological Sledge Party 1929**  
**L to R, seated: George Thorne Jr., Freddie Crockett,**  
**Dr. Laurence Gould, Norman Vaughn**  
**Standing: Eddie Goodale, John O'Brien**  
**Credit: *Little America* by RADM Richard E. Byrd USN**

My father was an exceptional storyteller, and I grew up listening. Growing up in New England, Dad taught me to have a passion for snow (winter is my favorite season), how to ski icy trails, and how to stay warm. As a kid, I used his sleeping bag from the sledging trip, and would lug all 14 pounds of it to ski huts, and to sleepovers, almost always overheating. When Dad died in 1978, I was in a place similar to where my father was in his early 20's; I had dropped out of college and was determined to find my way to Antarctica, to experience the continent that had played such a

profound part in my father's life. I wrote to Larry Gould, introducing myself as Freddie's daughter and explaining my desire to work in Antarctica. Larry suggested I contact Guy Guthridge, who recommended that I be in touch with the support contractor. With some persistence, I landed a job working in the administrative "chalet" at McMurdo Station, which I did for two austral summers ('80-'81 and '81-'82), and in 1982 and 1984 was hired by Dr. Art DeVries (who first characterized glycoprotein antifreezes in Antarctic fishes) to catch Antarctic toothfish (*Dissostichus mawsoni*) in McMurdo Sound. I resumed my studies so that I could build a career in Antarctic science and went to the University of Maine for graduate study with Dr. Bruce Sidell, who had received his first (of many) NSF grant to investigate metabolic cold adaptation in Antarctic fishes (Palmer Station, 1987-1991). At Palmer I met my husband, Dr. Patrick Hassett, an oceanographer. After landing a job at Ohio University and waiting until our two sons were old enough for me to venture south again, I began in 2008 a collaboration with Dr. Kristin O'Brien in what became three NSF grant cycles to examine physiological limits to elevated temperatures in both red-blooded (with hemoglobin) and white-blooded (lacking hemoglobin - icefishes) Antarctic fishes.

In conclusion, I will paraphrase Larry Gould's words from *Cold* and say that I would prefer to go back to the Antarctic and learn something new about Antarctic fishes than discover three gold mines.

## **Richard E. Byrd and his legacy**

by Guy G. Guthridge

*This article summarizes a talk delivered at the Society's Gathering in Vermont on 12 August 2022.*

Richard E. Byrd (1888-1957) and his Antarctic expeditions in the 1920s through the 1950s were the catalysts for the present-day U.S. prominence in the Antarctic.

Born into an aristocratic Virginia family, Byrd had a good and sometimes adventurous upbringing, graduated from the U.S. Naval Academy in 1912,



and married Marie Ames, of a prominent Boston family, in 1915. Marie became a vital partner throughout both his personal and his professional life. In the Navy, he promoted aviation in its early years. He figured importantly in establishing the Navy's Bureau of Aeronautics. Development of aviation for practical uses was central to much of his career.

Injured while at the Academy, he was placed on the retired list early and was on and off active duty several times over his life.



**Byrd with Franklin D. Roosevelt in 1935**

Byrd's first widely celebrated polar achievement, in 1926, was flying a multi-engine plane from Spitsbergen to the North Pole and back. The feat made headlines around the world and earned him the Medal of Honor from the United States Congress. The plane, a Fokker, remains to this day on display at the Ford Museum in Michigan.

Byrd began planning his first Antarctic expedition in 1928; the public was so attentive that he made the cover of *Time Magazine* on 20 August. The 1928-1930 expedition, like the second one in 1933-1935, demonstrated the feasibility of modern operations in Antarctica for both science and operations. It extensively used aircraft and mechanized surface transport. Radio communications were made both within the Antarctic for operational reasons and in live broadcasts from his Antarctic base Little America to audiences throughout the United States.

Byrd moved easily among leaders of institutions, corporations, and governments, raising money and in-kind support from all. Extensive public relations generated good will and enormous interest. "There has been no one quite like him in American life," writes a biographer. "Byrd left Dixie to become in the 1920s and '30s a Boston gentleman and the emblem of American industrial enterprise on the far frontiers of global exploration. His achievements helped shape the last hundred years into the American century."



**Byrd alone at Advance Base 1934**

The first expedition produced significant scientific achievements and featured a flight from the coast of Antarctica to the South Pole and back. This flight, like the North Pole one, generated headlines, as well as ticker-tape parades back in New York and Congressional promotion to the rank of Rear Admiral. The plane, a Ford Trimotor, is at the Ford Museum. The second expedition produced even more useful scientific observations, and it included his ill-considered winter sojourn alone a hundred miles inland from Little America. Carbon monoxide from the hut's stove sickened him and required rescue, but the experience resulted in what many call Byrd's best book, *Alone*, a best-seller like his two other Antarctic books.

Byrd was key in establishing the Government's United States Antarctic Service expedition just before WW2. He was seminal to what remains the largest Antarctic expedition, Operation Highjump, shortly after the war. His legacy and popularity



were important in promoting U.S. participation in the Antarctic portion of the 1957-1958 International Geophysical Year, which led to strong U.S. advocacy for the Antarctic Treaty, which was signed in 1959, 2 years after Byrd died.

Today's prominent U.S. research program in the Antarctic, and U.S. leadership among the 54 Antarctic Treaty nations, derives in no small measure from Byrd's Antarctic expeditions. In 1975, the Norwegian representative at a ceremony dedicating the new U.S. geodesic dome station at the geographic South Pole stated, "The United States has in many ways been a leading candidate in the Antarctic ever since Admiral Byrd started his expeditions in the late 1920s."

### Historic Artefacts Returned

by Jeff Rubin

During a training mission in 1956, Dave Baker found himself far from McMurdo, in the vicinity of Cape Evans, home of Capt. Scott's Hut. Then a young U.S. Navy ensign, Baker was part of a dogsled rescue team that would rescue the aircrew of any downed aircraft.

Peering into the hut through frost-glazed windows, Baker told New Zealand website *Stuff* ("Almost 70 years after being taken as souvenirs, historic artefacts to be returned to Antarctica," Aug. 25, 2022) that his group left the hut's interior untouched because they deemed it a "sacred space."

While searching among the foodstores outside the hut, however, Baker took a wooden box containing three tins of Fry's Pure Concentrated Cocoa as well as another wooden crate marked "Scott's Antarctic Expedition 1910" that originally held Shell Motor Spirits.

For the past six decades, he has used them as props during talks he has given about Antarctica.

But recently Baker decided, as he told *Star News* (Aug. 26), that the artefacts he had taken "needed to go home."

Entrusted to Christchurch-based Antarctic Heritage Trust (AHT), they will be flown to McMurdo and then returned by helo to Scott's Hut.

Lizzie Meek, conservation collections manager for AHT, gave the Antarctic Society virtual

lecture "Ross Sea Heritage Restoration Project Update – Conserving the legacy of the Heroic Age" on Sept. 27.

She has a message for anyone else who "souvenired" items from the Ross Island huts over the years: "We'd love to hear from you and discuss how we can work together to add these important pieces of history back to the sites." Contact her at [info@nzaht.org](mailto:info@nzaht.org).

### Deployments and Science on USCG Polar Icebreakers in the Antarctic

by Martin Weikart

*This article summarizes a talk delivered at the Society's Gathering in Vermont on 12 August 2022.*



**Icebreaker *Northwind* in McMurdo Sound**

Since Operation High Jump in 1946-1947, the U.S. Coast Guard and U.S. Navy have operated polar icebreakers in support of United States national interests in Antarctica and the Southern Ocean. In the early years of continuous U.S. presence in Antarctica, they were critical to logistical support in the building of research stations at McMurdo, Wilkes Land, Cape Hallett, Gould Bay (Ellsworth), Marie Byrd Land (Byrd), and Palmer (Antarctic Peninsula). Their icebreaking capabilities have been key to the annual ice escort operations of supply ships in McMurdo Sound and other coastal stations. In the mid-1980's, icebreakers of the *Glacier* and *Wind* Class were replaced by the *Polar* Class. The larger and more powerful Polar class were designed for solo Antarctic deployments. Icebreakers and their assigned

aviation detachments have supported numerous U.S. and international research expeditions and projects in waters that had rarely been previously explored, expanding knowledge in all the natural sciences. U.S. Coast Guard icebreakers supported U.S. State Department Antarctic Treaty inspections for many years. Recently, the role of USCG icebreakers in Antarctic science research has diminished, both in number of projects assigned and areas deployed. A new class of U.S. Coast Guard polar icebreakers is in work, designated as polar security cutters, and these icebreakers will be able to support Antarctic science activities.

### Warren M. Zapol, MD, 1942 – 2021

By Dick Wolak

*Warren Zapol, long-time Antarctic Society member, died on December 14, 2021 at the age of 79 of complications from lung cancer that had been diagnosed in 2015. His distinguished career was rooted in nine summers in Antarctica where he did ground-breaking research on the diving physiology of Weddell seals. In 2006, Zapol Glacier was named in his honor.*



Warren M. Zapol, M.D.

Credit: Massachusetts General Hospital (MGH)

I remember Warren Zapol from my first Antarctic pre-season conference in 1972. I believe it was his first Antarctic venture as well – he was a likeable young physician going to McMurdo for the 1972-73 summer to work with Dr. Art DeVries on various aspects of hemoglobin in Antarctic fishes. I last worked with him 35 years later in 2008 when we were both expedition staff lecturers on a commercial cruise to South Georgia and the Antarctic Peninsula. By then, his accomplishments were many and his stature in the medical profession of the highest order. But, his personality was unchanged – remarkably personable, gracious and intent on infusing those around him with the fascination of his research interests and the wonders of the world. You can see some of this for yourself in the Antarctic Society DVD, “*Antarctica Calling*” that includes Warren as one of its interviewees during a Port Clyde gathering.

Warren Zapol was the emeritus Anesthetist-in-Chief at Massachusetts General Hospital (1994-2008) and the Reginald Jenney Distinguished Professor of Anaesthesia at Harvard Medical School. The Zapol Professorship in Anesthesiology at Harvard Medical School and the Massachusetts General Hospital is named in his honor.

Zapol was born in New York on March 16, 1942. He received his undergraduate education at MIT, graduating in 1962 (at the age of 20) and his MD from the University of Rochester School of Medicine (1966). Following graduation from the University of Rochester, Zapol served in the U.S. Public Health Service from 1967 to 1970. He then began his research at the U.S. National Institutes of Health (NIH) as a Staff Associate of the National Heart, Lung, and Blood Institute. While there, Zapol designed an artificial placenta for premature lambs and performed some of the first long-term extracorporeal membrane oxygenation (ECMO) perfusions in neonates and adults with infant respiratory distress syndrome or acute respiratory distress syndrome (ARDS).

While he first worked at McMurdo on Antarctic fishes, his real interest was learning about Weddell seals. When first hearing of the breath-holding and diving capabilities of the Weddell, his immediate response was “bullshit.” But, he was soon fully

immersed in unraveling the complexities of those capabilities. His thirst for data led him to the design and use of microprocessor-based devices attached to seals to collect real-time feedback of organ and blood changes during deep dives (this, at a time when computers were only at the *Apple II* and *Commodore 64* stage).



**Physicians Konrad Falke, Graham Liggins, Warren Zapol, and Jesse Roberts in Antarctica in 1993. (Credit: MIT Technology Review, June 17, 2014)**

He led nine Antarctic expeditions to study the diving mechanisms and adaptations of the Weddell seal. Through that research, his team learned how marine mammals avoid the bends and hypoxia (low blood oxygen levels). Zapol's major research efforts included studies of acute respiratory failure in both animals and humans.

He was elected to membership in the (then) Institute of Medicine of the National Academy of Sciences in 2002.

In 2003, Zapol and his former research fellow Claes Frostell received the Inventor of the Year award from the Intellectual Property Owners Association for the development of a system to safely deliver inhaled nitric oxide, a technique now used to save the lives of thousands of babies each year that he pioneered with his MGH team. "Warren's discovery and demonstration that nitric oxide is a highly effective therapy for pulmonary hypertension in newborns and in adults is one of the most significant achievements in recent intensive care medicine history," Dr. Emery N. Brown, a director of the Harvard-MIT Health Sciences and Technology program, said in a statement. From

2008 through 2016, he was appointed by President George W. Bush and in 2012 reappointed by President Barack Obama as an academic representative to the U.S. Arctic Research Commission.

In 2012, he was designated as a Distinguished Scientist by the American Heart Association and in 2016 was inducted as a Fellow by the National Academy of Inventors.

### **Emperor Penguins Are Protected Under the Endangered Species Act**

Under the new listing, federal agencies are required to reduce threats to emperor penguins, which are vulnerable to warming temperatures and melting sea ice caused by climate change.

by Derrick Bryson Taylor, New York Times

Emperor penguins have been listed as a threatened species under the Endangered Species Act because the animals' sea ice habitat is shrinking, federal officials announced Tuesday. Experts predict that 99 percent of the world's emperor penguin population will disappear by 2100 without significantly reducing carbon pollution.

The Antarctic sea ice, where the penguins spend much of the year, is under stress. Heat-trapping gases released by humans' use of fossil fuels is causing the ice to disappear and break apart. That ice is essential to the animals' livelihood — it is where they breed, raise their chicks and escape predators.

According to the U.S. Geological Survey, "endangered" means a species could face extinction throughout all or a large portion of its range. "Threatened" means a species is likely to become endangered in the near future. There are between 625,000 and 650,000 emperor penguins in the wild, or 270,000 to 280,000 breeding pairs, according to the U.S. Fish and Wildlife Service.

The service's director, Martha Williams, said in a statement that the listing reflected the "growing extinction crisis."

"Climate change is having a profound impact on species around the world and addressing it is a priority for the Administration," Ms. Williams said.



“The listing of the emperor penguin serves as an alarm bell but also a call to action.”



**Emperor Penguin and Chick**  
Credit: LCDR William Blackwelder, USN-Ret.

The designation, which comes more than a year after the U.S. Fish and Wildlife Service announced a proposal to protect the penguins, places the animals among a couple dozen species that the federal government considers threatened by climate change. The Endangered Species Act is the world’s strongest environmental law that is intended to prevent extinction and foster the recovery of at-risk species, according to a news release from the Woods Hole Oceanographic Institution, a research facility in Massachusetts. A listing under the act encourages international cooperation on conservation strategies, and, although the species is not found within the United States, federal agencies must now ensure that their projects that emit large

amounts of carbon pollution do not threaten the penguin or its environment.

“Emperor penguins, like many species on earth, face a very uncertain future, which is dependent on people working together to reduce carbon pollution,” Stephanie Jenouvrier, an associate scientist and seabird ecologist at Woods Hole, said in the news release. “We should draw inspiration from the penguins themselves; only together can penguins brave the harshest climate on earth, and only together can we face a difficult climate future.”

It has been more than a decade since the Center for Biological Diversity petitioned the Fish and Wildlife Service to protect the emperor penguin under the Endangered Species Act, the news release said. In 2014, the agency agreed that the animal may be endangered because of climate change but did not take action. Five years later, the center sued the Trump administration for failing to act on the petition.

Emperor penguins are an integral part of the Antarctic food chain, in which they prey upon squid and small fish and are preyed upon by larger predators like the leopard seal and killer whale.

Caring for their young is a task that involves both parents. After laying a single egg, females hunt while males hold it on their feet, covering it in a feathered pouch. After the egg hatches, the parents alternate caring for the chick. Young penguins that do not develop their adult feathers before the sea ice disappears cannot swim in the freezing waters and will die.

Emperor penguins do not fare well on land. They cannot climb icy cliffs and are vulnerable to warming weather and high winds. In 2016, the Antarctic’s second-largest colony of the birds lost more than 10,000 chicks after a period of heavy winds and record-low sea ice before the chicks had grown their feathers.