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The Coast Defense Study Group, Inc. — Winter 2023

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### **Chairman's Message**

Steven Waldron

When I campaigned for this position, one of the items I listed was a hope to insert more NIke Missile system information into our program. We couldn't do that with the last two conferences, Savannah/Charleston and New Orleans being in devoid of these bases in their immediate vicinity. This year we are in Portland, ME with the nearest Nike facilities all the way up north near the old Loring AFB. But those of you who attended the NY conference will remember a fascinating demonstration of the double Integrated Fire Control located on Sandy Hook. This is always a tough thing to do with the many fortifications from Third System thru WW2 to visit, which is the main focus of the CDSG. But hopefully with each future conference we can attempt to list any somewhat intact Nike bases in the area for those doing some before or after touring on their own. Anyone with some local knowledge please feel free to contact us ahead of time with a list of places to visit or write an article for the newsletter on the subject.

Membership numbers were up in 2022. It is nice to see interest in real history as opposed to the illimitation of things of our past for political reasons. So please get your renewals in for 2023 and help recruit others into the CDSG. We were able to hold our cost at the previous level which is a rarity these days. Also anyone who would like to become more involved with the CDSG, and would be willing to help out our various Committee Chairs who are sometimes overwhelmed trying to keep us going, please contact me at swrams@hotmail.com and I will steer your email in the right direction.

# 2023 Annual Business Meeting – Friday, May 5th @ 7pm

Terry McGovern – Secretary/Treasurer

The CDSG Board of Directors is happy to announced that the CDSG Annual Business Meeting will be held in the Armory Room of the Portland Regency Hotel & Spa located at 20 Milk St, Portland, ME 04101 at 7:00pm (EST). The board urges all members to attend to hear annual reports from the board and committees and to discuss plans for the coming years.

### The CDSG Board

Terry McGovern – Corporate Secretary

The CDSG Nominations Committee, Robert Grimm, Tom Batha, and Alex Hall, are seeking board candidates for the full Board to consider by May 1, 2023. The ballot will be included in the May 2023 newsletter with results due by July 31. Results will

## **CDSG Meeting and Tour Calendar**

Please advise Terry McGovern of any additions or changes at tcmcgovern@att.net

### 2023 CDSG Conference

May 3 - 10, 2023 Portland, Maine Mark Berhow, berhowma@comcast.net

### 2023 CDSG Special Tour

September 9 - 18, 2023 Northern Poland Terry McGovern, tcmcgovern@att.net

#### 2024 CDSG Conference

To Be Determined, Volunteer Chair needed!

### 2024 CDSG Special Tour

September Puerto Rico Terry McGovern, tcmcgovern@att.net

### 2025 CDSG Conference

To Be Determined, Volunteer Chair needed!

### Other Meetings and Tours

April 15 - 28, 2023 Morroco ECCOFORT Study Tour Hans-Rudolf Neumann, hrv.neumannqt@online.de

> April 27 - 29, 2023 Ulm, Germany INTERFEST Annual Meeting Oliver Zauzig, praesident@interfest.de

June 7 - 10, 2023 Cherburg, France Association Vauban Annual Congress Alain Monferrand, contact@association-vauban.org

September 15 - 18, 2023 Bodensee, Limmat, & the Rhine Assocation Saint-Maurice d'Etudes Militaries Annual Meeting Col. EMG Schalbetter, president@www.esmem.ch September 13 - 18, 2023 Oahu, Hawaii Valor Tours Vicky Reynolds, valortours@yahoo.com

September 18 - 22, 2023 American Samoa Valor Tours Vicky Reynolds, valortours@yahoo.com

September 22 - 24, 2023 Deutsche Gesellschaft fur Festungforshung Annual Meeting Kufstein, Austria Andres Kupka, akupka@juelich.de

September 2023
Amsterdam or Rome
ECCOFORT Study Tour
Hans-Rudolf Neumann, hrv.neumannqt@online.de

September 2023
Liege, Belgium
Association Vauban Study Tour
Alain Monferrand, contact@association-vauban.org

October 2023
Jacksonville/St. Augustine, Forida
Council on America's Military Past Annual Conference
Bridget Hart, bridgethshea@hotmail.com

October 20 - 23. 2023
Chatham, England (U.K.)
Fortress Study Group Annual Conference
International Fortress Council Annual Meeting
John Harris, chairman@fsgfort.org
Jeroen van der Werf, secretariat@internetionalfortresscouncil.org

be announced in August 2023 Newsletter. The three-year term will begin October 1, 2023, at which time Steve Waldron will be stepping down from the board. If you are interested in running or have a nomination, please contact a committee member by May 1.

### **Coast Defense Journal Editor**

Mark Berhow

If the CDSG is going to continue to produce a high quality journal we will need a good effective editor. The job breaks down into two basic parts: 1) reviewing the accuracy and completeness of submissions for acceptance for publication, and 2) copy editing submissions for grammar, punctuation, redundancy, spelling, proper formatting, etc. While we have many members that can help with the first task, Bolling Smith was uniquely adept at performing the second task. Bolling has left the CDSG with a number of edited articles to keep the Journal in print with original material for a while. However, we do need to find a new editor for dealing with any new submissions. The BOD is looking for interested nominations for the job.

Please contact Publisher Mark Berhow (berhowma@comcast. net) with any suggestions or nominations and he will forward them to the BOD.

### CDSG Conference — Portland, Maine

May 2 to 6, 2023 Mark Berhow

We are all set for the 2023 CDSG conference in May to visit the harbor defenses of Portland, Maine. We are limited by the size of our charter boat for the first three days of the conference and we are currently over the full limit with currently registered attendees. However, I am working on a plan to deal with the extra people on the charters.

The area around Casco Bay and the river bays to the north have an outstanding collection of remaining seacoast fortifications ranging from unique second and third system forts, largely intact early modern era forts, to WWII era forts. Several sites are accessible only by boat and a number are privately owned, so attending this conference will be the only way most fort enthusiasts will be able to see them.

If you are still interested in attending you can contact Mark Berhow at berhowma@comcast.net for more information and registration details.

## **Preservation Committee Report**

Gordon Bliss

#### Year in Review 2022

This past year has seen as close to a pre-pandemic normalcy as we may see for a while and most places have returned to their normal operation. Hopefully, this will also allow us to visit sites and work more easily on preservation activities going forward.

Plum Island and Fort Terry have been proceeding through the administrative processes before the lab leaves. On behalf of the CDSG, I reviewed the draft Historic Properties Management Plan and provided comments back. With two exceptions, all the expected tactical and administrative structures are included as contributing resources in the Fort Terry Historic District, which is on the National Register of Historic Places. This listing doesn't guarantee that they will all be saved but is an important step. The two exceptions are Battery Dalliba, which has been undermined by storms and has now partially fallen over the bluff in front of it. The image on Google Maps I checked recently clearly show it fallen over and though it shows as still being in one piece, this will not last. The other exception is the mine storehouse (Building 257). Apparently, the modifications made to it during its time as a lab building have made it ineligible and it is listed as a non-contributing resource. Currently, the Preserve Plum Island Coalition has started a campaign to have it declared a National Monument. Though the Coalition is primarily concerned with preserving it as a wildlife habitat and nature preserve this should not be at odds with keeping the existing Fort Terry structure and should provide additional protection to them.

There have been no significant changes I am aware of at Fort Monroe or Fort Wool this past year. The Hampton Roads Bridge Tunnel expansion is still ongoing, and it is likely we will have to wait until a lot closer to its completion to see if they are going to return it to its before bird habitat condition. There are groups lobbying for this, so it is not forgotten.

Nearby, most of the fund-raising has been completed and Navy approvals achieved to move the last remaining 16-inch/50 gun barrel to Fort Story near the lighthouse. By the time you read this, the barrel may be installed there. Terry McGovern has worked hard over the past several years to find homes for these barrels before they were scrapped and deserves all our thanks. Also, at Fort Story this past year, the Navy has stopped plans to destroy two tactical structures that the CDSG had expressed concern over.

At Fort Adams, besides the regular maintenance to keep vegetation from encroaching on the gun batteries, Advanced Redoubt, and outer works; the regular volunteer work crew has been expanding the cleared area around the batteries south of the main fort. And though it is more a topic for next year's review, they have started the clean-up on Battery Reilly, the sole remaining Endicott battery that has not been worked on.

If there are any items of significance from the past year that I have failed to mention, please let me know and I will cover them in the next column.

If you have a Preservation issue or question, or for further information on any of the items I've mentioned, contact the Preservation Committee Chair, Gordon Bliss, at preservation@cdsg.org.

## \* \* \* \* \* CDSG FUND REPORT 2022

Quentin Schillare, Trustee

In 2022 the Coast Defense Study Group Fund received \$15,998 in donations, from 44 donors. Some people donated more than once. The CDSG Fund received both restricted donations, those given with a specific purpose in mind, and non-restricted donations, those give to the Fund to use as the board of directors see fit. Donations were made in memory of Elliot Deutsch and Bolling Smith, long-time members who recently died. The Fund supports grants to worthy organizations engaged in technical research, documentation, education, and preservation of historic seacoast defense artifacts and structures. It serves as a vehicle to enhance the accurate interpretation and understanding of an important part of American military history.

The Fund is seeking donations for projects that support these goals. Donations are tax-deductible for federal tax purposes as the CDSG is a 501(c)(3) organization, and 100% of your gift will go to our project grants. Major contributions are acknowledged annually. You can use our website (via PayPal) to make donations or you can send checks payable in US funds to the CDSG Fund to the address below. The trustees for the Fund for 2022 were

Terry McGovern, Mark Berhow, and Quentin Schillare.

The Fund is always seeking proposals for the monetary support of preservation and interpretation projects at former coast defense sites and museums. A one-page proposal briefly describing the site, the organization doing the work, and the proposed work or outcome should be sent to the address below. Successful proposals are usually distinct projects rather than general requests for donations. Ideally, we desire to fund several \$1,000 to \$5,000 grants per year. Upon conclusion of a project a short report suitable for publication in the *CDSG Newsletter* is required as part of the grant.

During 2022, the Fund made two grants during the year. The Fund granted \$13,752.48 to the Coalition for Historic Fort Wool for their efforts to return the fort to a publicly accessible historic site and to stabilization of the last standing WW2 Battery Commander's Tower at Fort Wool. The funding for this grant was from Fort Wool restricted giving to the CDSG Fund and a \$5,000 grant to the Coalition from the National Trust for Historic Preservation.

The CDSG Fund also granted \$43,257.71 to the USS *Iowa* Battleship Barrel project to provide a "good home" at JEB Fort Story, next to the Old Cape Henry Lighthouse and within 400 yards of Battery Ketcham (2-16BC) as part of a US Navy memorial. The funding for this grant was from 16-inch/50 Barrel Project restricted giving to the CDSG Fund, a \$25,000 grant from the Veterans Association of the USS *Iowa*, and \$5,000 corporate sponsorship.

While we have heard about possible grant requests from various former forts during the year, we request our membership, especially our CDSG Reps, to reach out to organizations that are working to preserve and interpret coast defense sites to send use written requests for funding. Some of the possible projects discussed, but no formal requests have been made so far, are for WW2 fire control tower stabilization at Fort Michie, historic signage at Pulpit Rock Fire Control Tower, movement of 12-inch M1895 barrel from "Bottomside" on Corregidor to Battery Parrott at Fort Monroe, and historic signage at Appledore Island's WW2 fire control tower in New Hampshire.

The Fund recognized the efforts of CDSG volunteers by hosting a dinner at our annual conference to the harbor defenses of New Orleans. We also continued a program to supply public fort sites with copies of our publications to aid their understanding and preservation of the structures in their care.

The CDSG Fund received \$15,998 in donations and received \$35,000 in outside grants during 2022 while making \$57,010.19 in grants, leaving the Fund with a balance of \$51,006.91 at the end of 2022. The outstanding commitments for restricted grants are \$29,390, so we have \$21,617 that is not currently committed to a CDSG funded restricted projects at the end of 2022.

A breakdown of donation by designation:

Giving Type	Amount
Unrestricted Donations	\$4,848
Fort Wool preservation	\$800
16-inch/50 Barrel Project	\$10,300
Fort Casey Preservation	\$50
Total Designated Donations	\$15,998

The Fund Trustees and Board of Directors wish to publicly thank the following individuals for making contributions to the Fund during the 2022 calendar year:

Alice Allen-Grimes Will Lowenthal Frank Manola John Berry Douglas Binau Terry McGovern Charles Bogart Mark Perreault Amazon Smiles Elizabeth Merritt John Case John Minter Mike Cobb Mike Nangano Nick England Dennis Need Ken Estes Bruce Nordmark Peter DeRose Dave Page Robert Duchesneau Marcus Papp Peter Percy Stephen Fanciullo Dale Floyd Kevin Pugh Glenn Frizzell Mark Perrault Robert Grimm Marian and Ray Rollings Frederick Buyer Gene Scanlon Greg Hagge Norm Scarpulla Marvin Heinze Quent Schillare Leslie Hulkower John Scholes Mark Seeger Gary Hunter David P. Larsen Joseph Sella Amy Lavorini Jim Vaitkunas

Send donations to (and made out to):

Daniel Lindley

CDSG Fund

c/o Quentin Schillare, qschillare@kc.rr.com

24624 West 96th Street, Lenexa, KS 66227-7285 USA

Or use your credit card via PayPal at www.cdsg.org

Send grant requests to: CDSG Fund c/o Terry McGovern, tcmcgovern@att.net 1700 Oak Lane, McLean, VA 22101-3326 USA

Please prepare a written request of your need and how your request relates to the goals of the CDSG.

# Recent Items from the Fortress Study Group

### Webinar Program available to CDSG members

The Fortress Study Group (FSG) is sharing their Zoom webinar presentations on fortification subjects with members of the CDSG. To access these links an email was sent out to all active members of the CDSG last month. If you are a member of the CDSG and are interested in these programs and did not receive this email (or remember receiving!!), please contact Mark Berhow (berhowma@cdsg.org) for the details.

Please note that for copyright reasons the recordings are for the personal use of CDSG Members. They are not listed or indexed on YouTube so please do not share the link by email or on social media.

The current program of future webinars presented by the FSG is subject to change. Check the FSG website for updates https://www.fortressstudygroup.org

Webinars on the 1st Wednesday of every month at 08:00 pm London Time as follows:

05 Apr 23 - Weapons of the Royal Regiment of Canadian Artillery - Doug Knight

03 May 23 - Fieldworks and forts: the defensive architecture of Tyrone's Rebellion, 1593-1603 - Jim O'Neill

07 June 23 - Portugal Part 2 - Charles Blackwood 05 July 23 - Freshwater Redoubt - Rik Smith

02 Aug 23 - Air Defence of The Netherlands during the Cold War - Kees Neisingh

06 Sept 23 - tbc

FSG Member 2022 Webinar 3rd Wednesday of every month see newsletter for further details at 08:00 pm London Time as follows:

15 Mar 23 - 19th century defences of the Shannon Estuary, Ireland - Ciaran McDonnell

19 Apr 23 - tbc

17 May 23 - Woodland Fort - Keith Phillips

21 June 23 - tbc

19 July 23 - tbc

16 Aug 23 - Coastal Defences of the British Empire in the Revolutionary & Napoleonic Eras - Daniel MacCannell

The FSG is always looking for webinar presentations. Interested presentors can contact Terry McGovern (tcmcgovern@att. net), Mark Berhow (berhowma@comcast.net) or FSG (admin@fortressstudygroup.org).

### Fort: The International Journal of Fortification and Military Architecture Volume 49 - 2021

- p2 Editorial
- p3 The Coastal Defenses of the Delaware Bay during World War Two, Part 2 - Terrance McGovern
- p33 The Origins of the Bastion Castle Olha Tikhonova
- p48 Imperial Defence in the Nineteenth Century as Exemplified by Two Island Batteries in the Harbour of Bombay (Mumbai) - Charles H Blackwood with Ian Wolfe
- p79 The New Dutch Waterline Jeroen van der Werf
- p124 The Ottoman ravelin of the Venetian citadel of Rethymno, in Crete. An eighteenth-century bastion fortification and its transformation over time. Historical and architectural documentation Stefanakis Stylianos
- p 158 Book reviews

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- Page 3. Chairman, Editor, Contents
- Page 4. Obituaries
- Page 6. Officers of the FSG, Publications of other Societies
- Page 7. Future Events, News/Reports
- Page 8. A Pair of Lunettes John Harris
- Page 13. Montenegro, The Bay of Kotor and surroundings: a fortification hotspot – Hans-Rudolf Neumann
- Page 14. Special tour to Denmark and Sweden Norman Clark and Lars Hannson
- Page 40. Fausse Braye Thoughts on a 37 year old question John Harris
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- Page 49. Reviews
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## CAC Artifacts Reports from the McGovern Girls

Terry McGovern

Some CDSG members have meet my three daughters, Rebecca, Rachel, and Alana, at various CDSG Annual Conferences. Being exposed to "concrete and steel" coast artillery over the years (whether they wanted to or not!) has trained them to be on the lookout for coast artillery items in their travels and that they should report these "finds" back to their father. Recently they each sent me photographs of coast artillery artifacts that they observed while travelling. I hope our CDSG members would like to view these interesting "finds" as well.

The first is from Alana McGovern, who travelled to Key West, Florida on vacation. While spending a day at the beach at Fort Taylor State Park, she ventured into the 3rd System fort and explored some of the barracks' rooms. One contained several 15-pounder M1898 masking parapet mounts. They were recov-

ered from Fort Taylor's moat when the state restored the moat by dredging out the fill deposited by the US Navy when they had control of Fort Taylor. As they removed the fill, they found the four 15-pounder M1898 masking parapet mounts from Battery Adair which had been tossed into the moat when the battery was abandoned (the barrels had been shipped back to arsenal earlier). As the moat contained salt water, the mounts needed to be conserved in an electrolysis tank for five years at Florida's Historical Resources Conservation Laboratory, Tallahassee, FL. After treatment, the larger parts of the mounts were returned to Fort Taylor for storage. As there are no complete 15-pounder masking parapet guns (barrel and mount) in existence, it would be great of one or two of these coast artillery rapid-fire guns would be restored at a former 15-pounder emplacement. The State of Florida is willing to loan these carriages to a qualified organization to restore a gun. One of the photos shows a Taylor-Raymond chain hoist from Battery Osceola has been conserved as well.





The second is from Rachel McGovern, who travelled to Cape Henlopen State Park in Delaware on vacation. While visiting the beach she walked by one of the Fort Miles Museum's newer artifacts, a 90mm M2 gun on M2 mobile mount as shown in this photograph. This 90mm gun was formerly on display at the National Electronics Museum in Linthicum, Maryland. Fort Miles had two 90mm AMTB batteries during WW2 – Battery 5A and Battery 5B – each with two fixed and two mobile 90mm guns. The Fort Miles Historical Association's "Bunker Busters" volunteer group renovated this 90mm gun and carraige and placed it in travelling mode so the FMHA could transport the gun to various local parades and events. The FMHA hopes to add a fixed mount 90mm M3 to its collection and apply the same complete renovation process as they did to the mobile mount 90mm M2.



The third is from Rebecca McGovern, who travelled to Chaffee, New York for a wedding. She stayed in nearby Springville, NY where her hotel was down the street from American Legion Concord Post 431. On display in front the legion hall is 4.7-inch QF Mk 3 Armstrong gun (#11855) on a Central Pivot Mount Mk 1 (#10843). This 4.7-inch quick-fire gun was formerly emplaced at Battery Drum, Fort Strong, MA. Rebecca took these photographs and reported that the gun was in very good condition.



## Update from the Coalition for Historic Fort Wool – Hampton Road, VA

Terry McGovern

The CDSG has been part of the Coalition for Historic Fort Wool since 2020. This historic site was closed to the public and turned into a temporary, seasonal seabird nesting habitat. The Coalition which is made up of about a dozen historical associations in the Hampton Roads area have been campaigning for the return of the island fort to public access with daily boat tours. The Coalition through the CDSG Fund recently received a \$5,000 grant from the National Trust for Historic Preservation to pay for engineering assessment of Fort Wool's historical structures. This assessment of the fort's structures (ranging from the 3rd System to Endicott to WW2) will be provided to the fort's owner (the Commonwealth of Virginia) to educate them on the current status of each structure and to provide priorities in stabilizing these fortifications. The study called out most immediate need is to stabilize the only remaining WW2 Battery Commanders Tower for shielded 6-inch Battery Gates (see photograph that was taken last month of Fort Wool). Members that are interested in this study can view a copy on the CDSG Website.



The Coalition also recently meet with the Virginia Secretary of Natural and Historic Resources and his staff in Richmond to discuss Fort Wool's current status and how to reopen the fort to the public for guided tours. Based on a state's study of the condition of the island's dock in 2020, it was recommended the repair or replacement of the island dock is needed to insure safe use. We also discussed the state's effort to build a new sand island in Hampton Roads for a permanent seasonal seabird nesting habitat. As one of the outcomes of this meeting, the Coalition has reached out to Virginia's General Assembly to request the inclusion in the state's budget of \$800,000 to replace the island dock and to stabilize the WW2 BC Tower. The Coalition is working to restart daily tours to Fort Wool on a seasonal basis (during the period when the seabirds are not nesting) once the dock is replaced and tower stabilized. Both the Coalition and Commonwealth want to see the nesting habitat moved to larger dedicated location by the time expansion of the Hampton Road Bridge Tunnel is completed (which is why the nesting habitat was moved from South Island to Fort Wool).

## Movement of the USS Iowa Battleship Barrel to the Old Cape Henry Lighthouse – JEB Fort Story, Virginia Beach, VΔ

Terry McGovern

The Veterans Assortation of USS Iowa and the CDSG continue to work with the US Navy to provide a "good home" for this historic 16-inch/50 barrel. The movement and display of the USS Iowa Battleship Barrel #270 at the Old Cape Henry Lighthouse onboard JEB Fort Story, Virginia Beach, VA is now underway after several years of planning. The project involves transporting the barrel (which is almost 70 feet long and about 120 tons) from St. Juliens Creek Annex in Chesapeake, VA to JEB Fort Story in Virginia Beach, VA using the streets of Norfolk and Virginia Beach. Displaying this barrel at Fort Story will save this historic barrel from being scrapped and will honor the USS Iowa veterans that served on this battleship during WW2, the Korean War, and the Cold War, as well as all the navy veterans that have served on ships homeported in the Hampton Roads area. This display will also recognize the US Army's role in providing coastal defenses at Fort Story during WW2 as similar barrels were emplaced there during the war in locations only about 400 yards from the display site.

The first phase of the project (construction of concrete foundation at Cape Henry) has been completed.



The second phase of the project is underway with the USS *Iowa* Battleship Barrel #270 moving at the end of January 2023 through the streets of Portsmouth, VA from St. Juliens Creek Annex to the Marine Specialty Painting facility in Portsmouth, VA. The 16-inch Barrel #270 and its cradle will be treated and

prepared for memorial display over a 30-day period. Already constructed are the steel stanchions to hold the two 16-inch projectiles that will be mount behind the breech and in front of the muzzle.



The final phase of the project will be the longer movement from Portsmouth, VA to Cape Henry in Virginia Beach, VA. It is planned that the barrel and cradle will be placed on its concrete foundations with display signage in March 2023. The US Navy will be hosting a dedication ceremony at a later date. This final phase the project is depended on our fundraising efforts. While \$90k of the \$160k budget has been raised, that still leaves \$70k to be raised. The project would welcome donations to CDSG Fund or suggestions from members on organizations that could provide sponsorship for this charitable project for the US Navy. Please contact Terry McGovern at tcmcgovern@att.net if you can provide introductions to corporations or other organizations that might be willing provide sponsorships.

## **Coast Artillery is Back!**

Submitted by Terry McGovern

Raytheon was awarded a \$208 million contract to arm Black Sea state and NATO member Romania with mobile coastal antiship missile batteries, the Pentagon announced in a Thursday contract statement.

Working with the Norwegian company Kongsberg, Raytheon will provide Romania an unspecified number of Naval Strike Missile Coastal Defense Systems as part of the deal that could be worth up to \$217 million after all the options are exercised, according to the announcement. The bulk of the work will be done in Norway and at Raytheon's facility in Tucson, Ariz., reads the statement.

Romania has a more than 100-mile coastline on the Black Sea – home to the Russian Navy's Black Sea Fleet.



The Raytheon Naval Strike Missile Coastal Defense System

According to a 2021 report from Norwegian engineering magazine Teknisk Ukeblad, the deal would pay for two coastal defense systems that would amount to four mobile launchers and two command and control nodes for the batteries.

The NSM was developed initially for the Royal Norwegian Navy as a modern anti-ship missile with a range of more than 100 nautical miles for its surface fleet. The ground-based launcher was developed by Kongsberg in part for export sales paired with a command and control system.



NSM to replace antiquated Romanian gun defense systems



"The primary missions for NSM CDS are maritime interdictions against sea targets from small and light ships made of Glass Fiber Reinforced Plastics (GFRP) to large naval combatants like destroyers and frigates and ships with [a] thick hull like icebreakers," reads Kongsberg marketing material for the system. "Secondly, land targets are handled by the NSM CDS. The land attack capability is primarily based on use of the military GPS but seeker-assisted land attack capability is also available if requested."

The U.S. and Romania signed a foreign military sales agreement in 2021 to acquire the Naval Strike Missile Coastal Defense System. In addition to Norway and the U.S., Poland is fielding NSM. Australia, the United Kingdom, Canada, the Netherlands, Spain, Malaysia and Germany also plan to use the missiles.

In November, the U.K. Ministry of Defense reached a deal to outfit 11 Royal Navy warships with the NSMs in a direct deal with Norway as a replacement to its current Harpoon anti-ship missiles.

The U.S. Marine Corps have developed their own ground variant of ground-based Naval Strike Missile launcher – the Navy-Marine Expeditionary Ship Interdiction System (NME-SIS). Marines strapped NSMs to a converted Joint Light Tactical Vehicle chassis operated by a remote control.

The U.S. Navy primarily fields NSMs on its Littoral Combat Ships for patrols in the Western Pacific.

Denmark has used a land based mobile harpoon anti ship system for sometime. they have even sent a battery to the Ukraine. The Russians and many others operate land based anti ship systems as well as a truck mounted 130 mm Gun System. Both gun and missile systems are alive and well outside the US and most western countries.

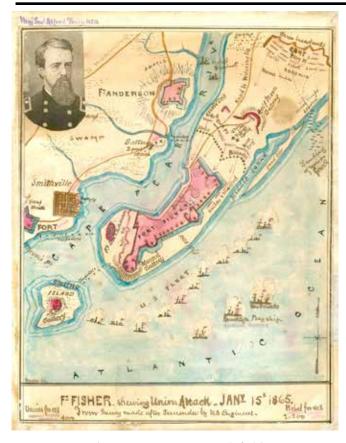
#### **FORT FISHER TO BE RESTORED**

Charles H. Bogart

The state of North Carolina in 2022 allocated some \$25.5 million to build a new welcome center and museum at Fort Fisher and to restore portions of the fort's historic look. During the American Civil War, Fort Fisher was the main Confederate coast defense fort guarding the blockade running port of Wilmington, North Carolina, against a Federal attack. The fort was captured by a combined Federal naval and military assault on January 15, 1865. This capture closed the last Confederate controlled Atlantic Ocean port and cut the Army of Northern Virginia from its overseas supply bases.

Fort Fisher was manned by the U.S. Army during the Spanish American War, World War I, and World War II. During World War II, Fort Fisher was a major training base for the Coast Artillery Corps, Anti-aircraft Branch. The Civil War fort during the CAC World War II use, suffered major damage as portions were bulldozed to make way for this or that purpose.

During the Civil War, Fort Fisher's land face extended one half mile from the Cape Fear River to the Atlantic Ocean. The planned reconstruction of Fort Fisher by the State of North Carolina will replace segments of earthworks that contained the fort's center sally port, which functions as the land side main entrance to the



Fort Fisher 1865 (American Battlefield Trust)



Fort Fisher 2023 (American Battlefield Trust)

fortification. This section contains the fort's #7, #8, and #9 gun emplacements and traverse, as well as underground magazines. Ocean wave action has, over the years, demolished most of Fort Fisher's Atlantic Ocean side gun emplacements. In 2023, the Atlantic Ocean has moved up to 2,000 feet west of its location in 1865

In 2025, visitors to Fort Fisher will exit the new visitors center and enter the fort through the sally port tunnel. From here, they will be able to visit a recreated ammunition magazine and go to recreated gun emplacements. Each gun emplacement will house an original Civil War 32-pounder cannon.

Among the groups working to restore Fort Fisher to its Civil War appearance are the Friends of Fort Fisher. One of the major construction projects undertaken in 1942 by the Corps of Engineers that resulted in destruction of a significant portion of Fort Fisher's wall was the building of an airfield. The Friends of Fort Fisher are in the process of raising \$3.5 million to restore part of the section of the fort's wall removed during the building of the airfield. The Friends are also seeking to recover, by donation or purchase privately held, items connected with Fort Fisher for housing in the new museum.

CDSG visited Fort Fisher in 1993; perhaps we should return in 2025.



## FGG and CDSG Special Tour to Denmark and Sweden

Part 2: 31 May to 7 June 2022 By Norman Clark and Lars Hansson

The Coast Defense Study Group (CDSG) and Fortress Study Group (FSG) successfully ran another joint tour to fortifications in Denmark and Sweden from May 22 to June 7, 2022, similar to our joint tour to the defenses of Switzerland in 2018. Key to this tour was Lars Hansson (through his BunkerTours company) as without his leadership and logistics management this tour would never have occurred. The tour was a gigantic logistical puzzle that went very well, and the few problems arose naturally but Lars successfully solved them. Only two visits had to be cancelled while 73 sites were visited.

The tour was divided into four parts – a pre-tour of two days in Denmark, the main tour for FSG starting in Copenhagen and ending at Arlanda, the CDSG tour starting in Nyköping and ending in Luleå and an extra end of two days in Gothenburg. The dates spiked backwards from visits to Gothenburg on National Day, June 6<sup>th</sup> (allowing us to see the annual firing of Fort Oscar II's coast artillery), which set the tour start for May 22. The tour reports are in two parts – part one written by Norman Clark (FSG tour segment) and part two by Lars Hansson (CDSG tour segment). Due the length we will run these reports over two CDSG Newsletters.

Part one was printed in the last *CDSG Newsletter* (November 2022).

Most of the FSG members returned home on May 31st and the CDSG portion of the tour to the Northern Swedish defenses begun from our hotel near to the Arlanda Airport (Stockholm). The following is daily summary of sites visited.

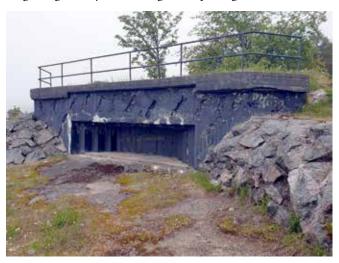
## **31 May 2022 Tuesday** 9,817 steps and 13 hours

Four rental cars full of CDSG tour members left our hotel at the Arlanda Airport at 8am to head north. After two hours, we rolled through the zoo and amusement park gates at Furuvik and were guided all the way out to Furuskär where we parked on top of **the Cold War coastal artillery battery GE3** (Gävle 3) with its three 7.5cm guns. Here the short tunnel system has been restored and was shown to us by a hired guide. We got our own time to explore in the fog and drizzle. The day was going to be a long drive, so it was just as well we continued north as soon as everyone was done.

Break for lunch (the first of many Circle-K gas stations we would visit) and a quick check-in at a hotel in Sundsvall before we headed out to Spikarna where the owner of Storholmen Island provided water transport for us out to **Battery Sundsvall 1** (SL 1) with three 15.2cm/98-50E guns.

The sea was very active, so our tour members were damp when we reached the private island. Here we had the whole big underground facility to ourselves throughout the evening. Those who started outdoors by visiting the northern ex-navy guns were treated to in a thunderstorm, so they were totally soaked, while others took shelter in the 1km long tunnel system. When the battery was taken out of service only the ammunition, rangefinders, and radar was removed before sealing the tunnels. When the private owners opened the tunnel system, they found items ranging from secret documents to mouldy bedding. Only in 2019 did the fortifications authorities learn of this oversight and returned to clean out the battery complex.

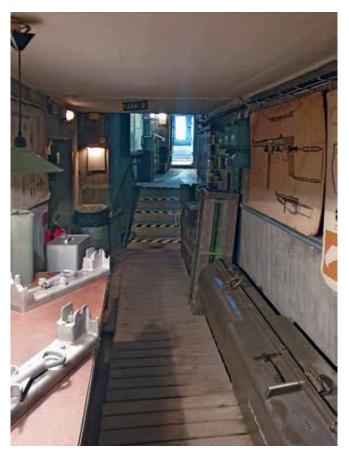
During the evening burgers were served and we were all ashore again a bit after 8pm and half an hour later at the hotel after a long and good day of traveling and exploring.



Part of Battery GE3.



GE3 radar antenna.



Inside GE3 support tunnel.



Part of Storholmen SL1, former exit to the sea.



Storholmen inside SL1 15.2cm turret.



Storholmen SL1 underground tunnel system.

### 1 June 2022 Wednesday 11,600 steps and 14 hours

The day began at half past nine with an hour's drive to the ferry over to Hemsö, where five more Swedes were waiting to join the tour.

Yesterday's rain meant that it was a blanket fog, which made it difficult to get an overview of the Hemsö Fortress and **Storråberget's Battery** with its three 15.2 cm m/51 twin turrets. These turrets were made for export to Thailand, but they were confiscated by Sweden during WW2.

The battery has a huge tunnel system which connects the three turrets, command centres, power plants, barrack, messes, and observations posts. We split up and those who wanted to, went on a guided tour, but it was also possible to walk around independently.

The battery is complete with all its gear and is now a national trust but leased out to a private operator. We had lunch in the specially built new restaurant and then we went into the mountain's tunnels again until about 2 p.m.

We then travelled across the island to **Kläffsön** where the Arte 719 measuring station (radar based fire control) is preserved and which we visited for another hour.

This is the only surviving type in Sweden and is only reached through a vertical ladder of about three meters to enter the fourstory bunker.

After that site visit, we travelled to **Battery Havstoudd** with its three 7.5 cm m/57 single turrets for our overnight accommodation in the underground barracks.

A unique addition to the battery is the integrated controlled mine station with a periscope and radar covering the local mine-



Guide Christer in the restaurant, telling a part of the Hemsö Fortress history.



Main generator in Storråberget .



Part of the Plan for Storråberget's Battery



Internal blast door in Storråberget .

field. Some of the tour members had single/double rooms while others used the three level bunks.

After exploring the battery both inside and out, we returned to Storråberget for a delicious three-course dinner. Back in Battery Havstoudd for the night, we had free access to the entire facility all night long, and some tour members took advantage of unlimited time to explore and photograph the battery's details.



Twin 15.2cm Turret from inside.



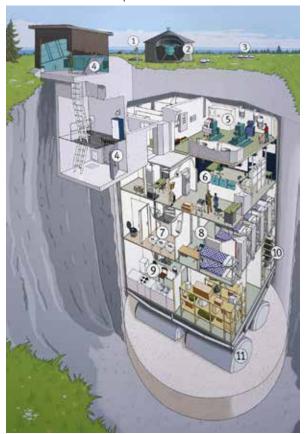
One of the Twin 15.2cm Turrets.



15.2cm magazine.



Part of a weather protection for an AA 40 mm.



Plan for the Arte 719 post.



Arte 724 observation post in Storråberget .



Optical eye observation post Kläffsön.



Guard Dog still on duty!



3rd gun turret at Havstoudd.



One emergency exit at Havstoudd.

**2 June 2022 Thursday** 6,510 steps and 11 hours.

After breakfast in Havstoudd, we began the long journey north to Luleå and Boden. No wonder the day had the least steps as nearly 350 miles were logged during the drive.

We made a short stop before the ferry at **Härnösand radio** station bunker and **Battery Nordanö** (57mm guns).

With stops about every other hour, we arrived at hotels in Luleå around 17:30 where some of tour members could not forgo an evening trip to Boden with dinner in town. Boden Fästning is a fortress consisting of several major and minor forts

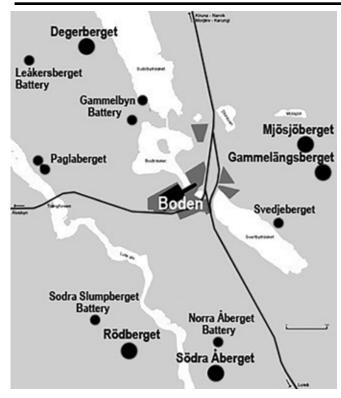
and fortifications surrounding the city of Boden, Norrbotten, in northern Sweden.



Our bunks at Havstoudd.



Härnösand radio station bunker.



Location of Boden

The fortress was originally intended to stop or delay attacks from the east or coastal assaults, which at the time of construction meant Russian attacks launched from Finland.

It was primarily the expansion of the railway network in Norrland, a consequence of the rising importance of the northern iron ore fields, that led to the increased strategic value of northern Sweden and the construction of the fortress. Although the main forts were finished in 1908, many of the supporting fortifications were not completed until the start of the WW1. Improvements were also continuously made during, and between, both World Wars.

Boden Fortress is made up of five primary self-supporting forts excavated out of the bedrock in five mountains surrounding Boden: Degerberget, Mjösjöberget, Gammelängsberget, Södra Åberget and Rödberget.

Eight fortified secondary artillery positions were constructed between the forts to give flanking support and to cover areas not in range of the main forts' artillery. In addition, 40 bunkers for infantry, along with dugouts and other fortifications, were built to cover even more terrain. During WW2, anti-tank gun emplacements and additional bunkers and shelters were built, and tens of kilometres of dragon's teeth were placed around the fortress and the city itself.

Owing to the end of the Cold War and the reduction of the threat from the Soviet Union, Boden Fortress became less important to the defence of Sweden and began to be decommissioned.

The last fort of the complex was decommissioned in 1998 and is now used as a tourist attraction. All five forts as well as some of the supporting structures have been declared historic buildings, to be preserved for the future.



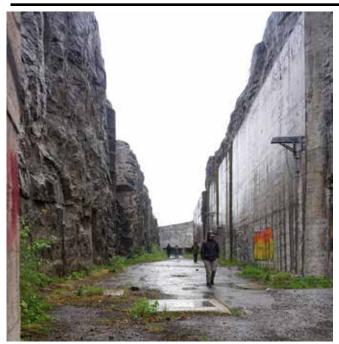
Battery Nordenö 57 mm.



Norra Åbergsfästet

Unfortunately, the weather was very rainy and the visits to the bed-rock forts at **Södra** Åberget (4x12cm m/99, 4x8.4cm m/47, 4x57mm m/07) and **Noora** Åbergsfästet (4x8.4cm m/47) were wet events.

The weather was better when we visited the impressive sand storage mountain and former defended electrical substation. We then drove back to Luleå and our hotel.



Södra Åbergsfortet in rain.

**3 June 2022 Friday** 12,463 steps and 10 hours.

A full day in Boden started with the bed-rock fort **Röd-bergsfortet** (4x12cm m/24, 4x8.4cm m/94-04, 8x57mm m/07. With our guide Mats, we first went to tour the "**Satellite**" work which has two 12cm m/24 single gun turrets in bunkers.



Satellite battery's 12cm turret at Rödbergsfortet.

On the way back to the main fort, we visited a protected searchlight position and several artillery weapons on display.

We explored the whole of Rödberget, including flanking galleries and communication passages there as well as the latrines, and back for a hot lunch inside the fort.

The rest of the afternoon was spent in the Boden fortress, first was a korvfortet or "sausage bunker" on the way down from Rödberget followed by a svedjebergsbatteriet that was built in the bed-rock with six positions (8.4cm m/94 and 7.5cm m/17), the Défense Museum (modern museum telling the military history

of Boden), the rock-fort **Mjösjöfortet** (4x15cm fstnaub m/06, 4x8.4cm m/94-04, 8x57mm m/07), the supporting **Mjösjöbatteriet** and the rock-fort **Gammelängsfortet** (4x12cm m/99, 4x8.4cm m/94-04, 8x57mm m/07) as well as the southern **Gammelby Battery** before returning to Luleå for dinner and our hotel.



Protected searchlight at Rödbergsfortet.



7.5cm m/17 gun in a svedjebergsbatteriet.



Rödbergsfortet.



Rödbergsfortet barracks.



Access to the 12cm Turret at Rödbergsfortet.





Korvfortet or "sausage" bunker as part of road defence.

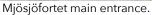


On the top of Rödbergsfortet with 12cm turrets.



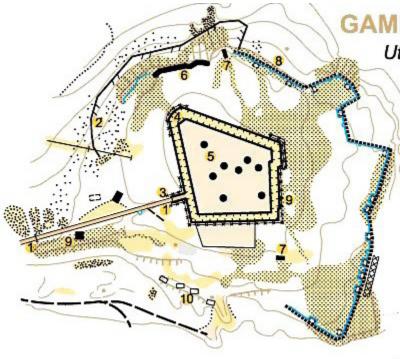
Mjösjöfortet.







Gammelängsfortet ditch.



## **GAMMELÄNGSFORTET**

Utseende hösten 1999

Skalamátt 100 m

Ekvidistans 5 m



- Hänvisningar:
- 1. Fredsgrind
- 2. Fredsstaket
- 3. Infart
- 4. Stormgrav
- 5. Forthjässa med kanontorn
- Infanteriskans (sk korv)
- 7. Strålkastarställningar med rälsbana och skyddsrum
- 8. Försvarsmur av sten med förbindelsevärn och skyddsrum
- 9. Infanteribunker
- 10. Skyttevärn

\*\*\*\*\* Stormhinder (taggtråd) Sprängsten från utgrävning av stormgrav och bergrum



Inside Gammelängsfortet 12cm M/99 turret.

**4 June 2022 Saturday** 9,822 steps and 11 hours.

We checked out of the hotel in Luleå and spent a few more hours in the Boden Fortress with a visit to the fortress' **Radiobunkern** and **Ballonghallen**.



Boden Fortress Radio Bunker, just south of Degerberget Fort, was used for the first radio broadcast in Swedish history.



Ballonghallen, A wooden building, it was finished in 1914 and is the only one of its kind in Sweden.



Gammelängsfortet main corridor.

The last defences we visited before heading north towards Vuollerim was **Leåkersfästet Battery** (10x8.4cm m/94) with its companion defensive work to shelter infantry (161 men).

We were sorry to leave the impressive Boden Fortress as there were many more defensive sites that we had not time to visit.

We headed north along the Luleå River, which during the Cold War formed the second Swedish defence line after the Finnish-Swedish border. This is the third river crossing for an invader but the border river, Torneå, is too shallow and easy to cross even for tanks, so the first strong defence line was set up 50 km to the west at the River Kalix and the second at the River Luleå, a further 70 km away. Both these rivers are wider, deeper and have higher banks making them impossible to ford.

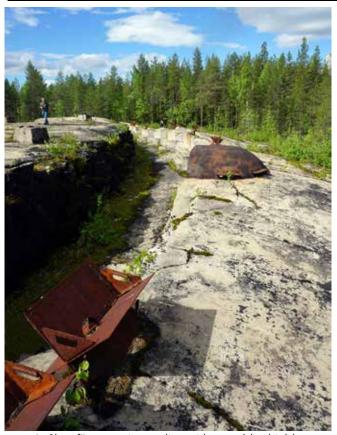
The Swedish Road network was designed early for defensive purposes with good, straight and wide roads with numerous bridges in parallel going north-south. The road network going east-west consisted of winding, narrow roads with only a handful of bridges over the two rivers. Gun batteries and strongholds were located at all bridges and hydropower dams. All bridges were also prepared for demolition and road banks had tunnels underneath for explosives.

The Luleå Line is from Luleå up to Jokkmokk, while the Kalix Line is from Kalix up to Mikkelirova.

Of the five batteries from Harads to Vuollerim, only the twin turret (15.2cm guns) at **Bomyrberget** is preserved. It is positioned on top of the local ski slope and the turret is disguised as a small cabin.

Preserved as a national trust site, it became as a museum known as **Victoriafortet** after HMS Victoria that provided the guns. It was run as a museum for a couple of years but for the last three years it hasn't been open to the public.

Fortunately, we had keys from FortV in Boden, so we were able to spend a few hours in the battery before we switched off the lights and locked the doors again. We took the time to make a touristy detour – of only 20 minutes up to the **Arctic Circle**, where there was a memorial to the circle so we could step over the line and back many times.



Leåkersfästet, main gun line with movable shields.



Bomyrberget, 15.2cm from HMS Drottning Victoria.

The travel time to the **Kamlunge Battery** (2x15.2cm m/12-66) took over two hours due to an accident that sent us onto an alternative road that turned out paved but particularly bumpy. Bonus, at least, was a moose sighting for our tour members to photo.



Leåkersfästet, infantry part.



Arctic Circle - polar circle.



Bomyrberget, fake house over the 15.2cm turret.



Häggmansberget 15.2cm gun.



Häggmansberget 15.2cm.



A Stridsvagen M41 turret used as strongpoint

At around 17:30 we exited the cars up on Häggmansberget for the two preserved 15.2cm guns. The staff from the **Kalix Riverside Inn** met us with coffee and buns before we started exploring this battery that is in the middle of nowhere (even for northern Sweden).

Once we arrived at the Kalix Riverside Inn for the night, we began to inspect the large military vehicle park and **Kalixlinjens Museum** before dinner in the Inn's restaurant down by the river.



Bomyrberget, 15.2cm from inside turret.



Häggmansberget 15.2cm inside turret.



Kalixlinjens Museum, fixed tank turret display.

This night, a few miles south of the Arctic Circle, was too bright for some participants who did not sleep very well as it never gets dark this time of year.



Kalixlinjens Museum, inside the museum.

## **5 June 2022 Sunday** 6,055 steps and 15 hours

Our last day in Northern Sweden started with visit to the Töre harbor, where on display was a **fixed tank turret m/74** and the **submarine Spiggen 2** in a local museum before we continued with the same guide to **Siknäsfortet**.

On the way out on the Siknäs peninsula, we finally caught sight of a lonely reindeer, which became the only one seen during the tour.

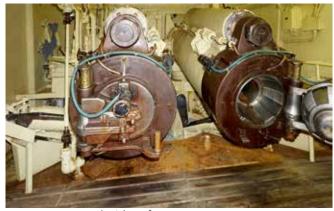
The fortress at the Siknas peninsula was built as a defence of Tore harbour, the most northern deep-water harbour in Sweden, and to delay an enemy advance toward Boden. The fortress was the biggest and most modern of the more than 3,000 defence objects of the Kalix Line. The four Siknas turrets were built 1953-1960 and are situated at the Siknas peninsula ranging from 62-67 meters above sea level.



Kalix Riverside Inn Dining Room.

They had a garrison of 322 soldiers and each turret was equipped with twin 15.2cm m/03 guns from the broken up armoured cruiser Fylgia.

The four turrets were grouped into two batteries. Built of reinforced concrete with three or four floors, the entire structure rests on springs, free from the rock walls, to reduce shock waves from bombardment. Each turret had its own command centre, loading and ammunition rooms, barracks, kitchen and canteen, power rooms, toilets, and showers.



Inside Siknäsfortet twin gun turret.



Siknäsfortet twin 15.2cm turret.

Also, these structures were protected against nuclear, biological, and chemical weapons. The last military exercise was carried out in 1990 and the batteries were placed out of service in 1992 (turrets 3 and 4) and in 1998 (turrets 1 and 2).

The Fortification Board's (FORTV) disposed of turrets 3 and 4 in 2003. The ground was levelled and once again planted. In 2005, the FORTV sent a request to the Board of National Monuments suggesting turrets 1 and 2 as national monuments but in 2008 the government decided not to preserve them because of the costs, instead it was decided that the remains of the fortress could be transferred to a new owner and be used as a museum. During 2011-12 the FORTV renovated the inside of turret 1 and it was opened to the public.

We attempted to just do a quick guided tour of the facility and then a free tour, but the guide wanted to do it his way which meant that our group relatively quickly disappeared from the guided tour.

Our last site visit was to a former **PJ-21 altitude radar station** on the Siknäs peninsula before we headed back towards Gammelstad for refuelling and the drive to Luleå Airport. At the airport, we returned our rental cars and tour members started their travel home or continued to the Gothenburg add-on tour.

The flight time from Luleå Airport to the Gothenburg Airport via the Arlanda Airport is usually about 3.5 hours, but not this day! It took almost 10 hours with SAS. Our first flight failed to take off due to an A/C problem and the second took an extra hour to load the plane. By then we had missed our connection in Stockholm, so they sent us from Stockholm to Copenhagen, where we had to get another plane to Gothenburg. We then had to walk to our hotel and roust out the hotel staff to let us in.

A very long day carrying our luggage!



National Day - The Swedes ready for the Russians Gå På!

## 6 June 2022 Monday

14,288 steps and 8 hours

This day was Sweden's National Day with heritage sites open to the public all around Sweden.

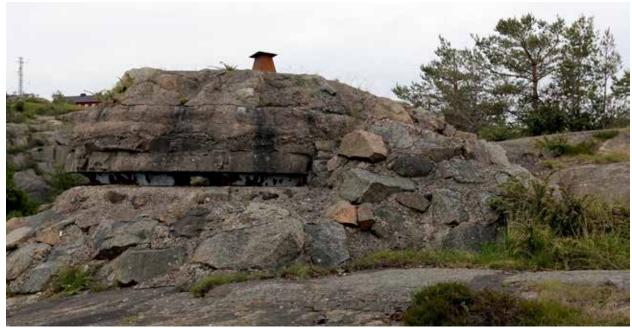
Our goal was to be at **Oscar II Fort Gothenberg** at 11am when the fort opened to the public.

We first regrouped from our airport hotel to a hotel near the central railroad station, then the majority took the tram out to Långedrag and the fort.

Built between 1903 and 1907, the fort was named after the then king of Sweden (and until 1905 also king of Norway). When built, Oscar II was well ahead of its time, it had hot-air heating, electricity and inside toilets when many of the local population had none. At the time of construction there were no reliable



Part of Götiska Battery, 57 mm.



Command post for Götiska Battery.

roads from nearby Gothenburg and so a dock and narrow-gauge railway were built for the building materials and armaments to be shipped in. The location was chosen to provide a commanding position over the sea approaches to Gothenburg.

The design used the massive granite bedrock to provide superb protection for the garrison, services, and armaments, surrounded by a huge dry moat with daunting counterscarps and caponiers. The main firepower was in armour-plated turrets or within the moat on 'disappearing' mounts.

The vast quantities of granite excavated during construction were used to create false reefs in the estuary to funnel shipping (friendly and potentially hostile) through a narrow navigable channel. The main body of the fortress consisted of two 24cm m/04 guns mounted on disappearing carriages and 15cm gun turrets and 57mmr light guns in turrets.

The fort encompasses space for 300 people and consists of several hundred metres of walkways with offices, barracks, powerplants, messes and stores. The fort's armament was completed



24cm guns at Oscar II Fort.



Oscar II fort, stairs to 15.2cm turret.



Oscar II Fort, 15.2cm turret.

in 1907. In addition to naval mines placed around the flanks, there was also a light battery, the Götiska batteriet ("Geatish Battery") with four 57mm guns in casemates.

Arrangements had made for our entry into the fort where hundreds of visitors were exploring, while various groups had tables and tents set up selling food to recruiting for the Swedish military.

Firing of the <u>Götiska</u> battery's four 57mm guns was followed by a special tour in the gun casemates for our group. Before the shooting with 15.2cm, we were given access to the inside of one of their turrets that was not shown to the public so we could photograph in the gun in peace. We also got good seats for the firing of the 24cm pieces and finally we had access to one of the 57mm turrets.

On the way home, we jumped off the tram for a visit to **Skansen Kronan** which is a masonry gun tower built in 1698 for 23 cannons.

Our final tour dinner was at an all-you-can-eat Chinese restaurant before returning to the hotel.

## 7 June 2022 Tuesday

7,309 steps and 4 hours

After breakfast, some of us took the tram to the **Skanseb Lejonet**, which is masonry artillery tower completed in 1692 so we could view the exterior.



Group Photo for FSG/CDSG Special Tour to Denmark/Sweden - Taken at Ellenabbens Battery, Aspo.

The tower is privately owned, as well as the saluting battery before we visited the **Maritiman**, which is a floating maritime museum on the Göta Älv, in Gothenburg.

The museum's collection comprises 19 vessels, the oldest being HSwMS Sölve from 1875.

The two vessels we focused on were the HSwMS Småland, Halland class destroyer and HSwMS Nordkaparen, Draken- class submarine.

Again, changing weather, ranging from sun to pouring rain. After lunch everyone departed on different trains towards home and the grand tour was over!

### Majority of photos credited to Lars Hansonn

Note from Terry McGovern: "I am sure that Lars Hansson went home and said he would never do this tour again as the logistics of the tour were taxing as well as dealing with all the needs of FSG and CDSG tour members. We owe Lars and his family (yes, they were involved in making the tour work) many thanks for his leadership and steady hand on the tour."

Attending all or part of the FSG and CDSG Tour were Kenneth Estes, Genevieve Perrin, Ian Wolfe, Mariusz Jachimowicz, Terry McGovern, Alana McGovern, Barrie Eden, Chris Foss, Norman Clark, Alan Fyson, Maurice Gehlen, Rolf Thöndel, Craig Dyson, Julie Dyson, Charles Woodman, Charles Blackwood, Tim Wellburn, Lars Hansson, Pingo Olofsson, and a bunch of Swedes and Norwegians (at various times).



HSwMS Nordkaparen, Draken- class submarine



Skansen Lejonet with salute battery.



HMS Småland. Forward 12 cm and 57 mm guns.



#### **CDSG Fund**

The CDSG Fund supports the efforts of the Coast Defense Study Group by raising funds for preservation and interpretation of American seacoast defenses. The CDSG Fund is seeking donations for projects supporting its goals.

Visit the CDSG.ORG website for more details.

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- \* Educational study of coast defenses
- \* Technical research and documentation of coast defenses
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- \* Accurate coast defense site interpretations
- \* Assistance to groups interested in preservation and interpretation of coast defense sites

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The Fund is always seeking proposals for the monetary support of preservation and interpretation projects at former coast defense sites and museums. A one-page proposal briefly describing the site, the organization doing the work, and the proposed work or outcome should be sent to the address below. Successful propoals are usually distinct projects rather than general requests for donations. Ideally, we desire to fund several \$500 to \$1,500 grants per year. Upon conclusion of a project a short report suitable for publication in the CDSG *Newsletter* is requested. The trustees shall review such requests and pass their recommendation onto the CDSG Board of Directors for approval. The trustees for the CDSG Fund are Terry McGovern, Quentin Schillere and Mark Berhow.

Send donations to (and made out to): CDSG Fund c/o Quentin Schillare 24624 W. 96th Street, Lenexa, KS 66227-7285 USA Or use your credit card via PayPal on the www.cdsg.org website.

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Please prepare a written request of your need and how your request relates to the goals of the CDSG.



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Size & #L	_XL _	2XL _	3XL		
Total Number: _	tim	nes \$		= Total \$	
(domestic \$18/overseas \$26 each)					
CDSG Cloth Pat	ch:	times	\$ \$	= Total \$	
(domestic \$4/overseas \$6) each					
CDSG Color De	cal:	times	s \$	= Total \$	
(domestic \$2/overseas \$3) each					
Hats: tin	nes \$		:	= Total \$	
(domestic \$20/overseas \$25) each					

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Seacoast Artillery Weapons (Army Technical Manual 4-210, 13 Oct. 1944), paper back reprint. \$25 / \$35

The Service of Coast Artillery, by F. Hines and F.W. Ward (1910), hardcover reprint \$40 / \$60

Permanent Fortifications and Sea-Coast Defenses, Congressional Report No. 62, U.S. House of Rep. (1862), hardcover reprint \$30 / \$45

American Seacoast Matériel, Ordnance Dept. Doc. #2042, (1922), Hardcover reprint \$45 / \$65

The Endicott and Taft Reports, reprint of original reports of 1886, 1905, 1915, hardcover, with plates included in a separate paperback \$45/\$95

Artillerists and Engineers, the Beginnings of American Seacoast Fortications, 1794-1815, by Arthur P. Wade, paperback, (2010) \$25/ \$40

American Seacoast Defenses: A Reference Guide, Third Edition edited by Mark Berhow (2015), hardcover \$45 / \$95

Historic Fortifications Preservation Handbook, 2003 guide to preservation methods for concrete fortitifications spiral bound softcover \$15 / \$70

WWII Harbor Defenses of San Diego, 2021 by H.R. Everett, available from Amazon, \$40 list price, (\$50 if ordered from CDSG, domestic shipping only).

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