



# Northwestern Division Convention

“Solar Cycle 25 & Year of the Tech”



Photo © City of Seaside Visitors Bureau

## Seaside Convention Center

## Seaside, Oregon

## May 31, June 1 and 2, 2019



[www.seapac.org](http://www.seapac.org)

Sponsored by the Oregon Tualatin Valley Amateur Radio Club  
Co-sponsored by the Clark County Amateur Radio Club

# Welcome to SEA-PAC!

Welcome to the 37th Anniversary edition of SEA-PAC. What began as the vision for moving a Hamfest to an ARRL Convention became the celebration of Amateur Radio in the Northwestern Division. Welcome to NW Division hams, U.S. and International participants!

Our theme, "SOLAR CYCLE 25 & YEAR OF THE TECH" reminds us to look both to the future of amateur radio AND to the new Technicians joining our hobby/service today. There are volunteers and clubs in the Northwestern Division who serve their communities routinely. It's who we are as hams.

More than two dozen volunteers worked since September to provide this weekend. Tell us how we did. The Oregon Tualatin Valley Amateur Radio Club sponsors the SEA-PAC Convention in concert with the Clark County Amateur Radio Club and other clubs.

The Friday workshop, commercial exhibitors, club displays, seminars, flea market, and prizes are here for you. Whether your interest in Amateur Radio is as a SERVICE or Amateur Radio as a HOBBY...working together we're strongly moving Amateur Radio into Solar 25. SEA-PAC is committed to serving our community.

We thank you for your patience as we work with the Seaside Convention Center redevelopment. The new Convention Center will improve our ability to continue being the premier gathering of hams in NW Division.

Welcome to Seaside!



Everett Curry, W6ABM  
2019 SEA-PAC Convention Chairman

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# SEA-PAC WELCOMES OUR ARRL GUESTS



**Rick Roderick, K5UR**, ARRL President lives north of Little Rock, Arkansas on a 50 acre hilltop QTH. He has worked 370 countries, including 314 countries on 160 meters, 351 countries on 80 meters, 353 countries on 40 meters, and 152 countries on 6 meters. He holds DXCC on 10 bands and is ranked 5th in the world on the DXCC Challenge Award. He holds over 20 different Worked All Zones Awards, and was one of the first to achieve Worked All Zones on 160 meters.

He's been a ham for over 40 years. Life Member of the ARRL and has held numerous ARRL volunteer positions continuously for all of those 44 plus years. He served on the ARRL DX Advisory Committee and was chairman for many years. He has also served on CQ Magazine's DX Advisory Committee for 40 years. He was instrumental in the creation and implementation of Logbook of the World, and the DXCC Challenge Award. He has been on the ARRL Board of Directors for 20 years and formerly served as ARRL First Vice President. He loves ham radio!!!!



**Howard Michel, WB2ITX**, ARRL Chief Executive Officer is a retired US Air Force officer, having served as a pilot, satellite launch director, engineer, and engineering manager. He notes that during his time in the military, wherever he could set up an antenna, he took the opportunity to operate.

He notes that he has always had a strong interest in building and repairing radio equipment. "I've operated CW/AM/FM/SSB/digital on 80/40/20/15/10/2 on equipment that I have either built, repaired, or modified. Michel says that some of his favorite activities include attending hamfests to find old stuff to repair or repurpose, contest operating, and DXing, especially on 80/40 meters. He adds that he is a Life Member of the Southeastern Massachusetts Amateur Radio Association.

Personal or business information collected as part of this event is not shared or distributed in any way outside of SEA-PAC.

# SEA-PAC WELCOMES OUR ARRL GUESTS



**Bob Inderbitzen, NQ1R**, is the manager for marketing at ARRL. He and his staff are responsible for ARRL membership and publication marketing. Bob collaborates with other staff, contributing to benefits, services and products enjoyed by all ARRL members. In 2014, he served as the convention manager for the national ARRL Centennial Convention held in Hartford, Connecticut. Bob regularly attends ARRL's national conventions and Dayton Hamvention as part of the team that organizes and operates ARRL exhibits. He also coordinates ARRL's representation at Europe's largest, annual-held Amateur Radio exhibition in Friedrichshafen, Germany.

He enjoys speaking with members and volunteers about ARRL membership recruitment, benefits and services. Bob obtained his first ham radio license, KA2PZD (Novice-class) in 1981. He attributes his early interest in Amateur Radio to a fascination with electronics and a patient middle school vice principal who decided to conduct an Amateur Radio class. Bob says, "I was the only student who enjoyed being sent to the vice principal's office. That's where the radio was!" Bob earned the call sign NQ1R when he upgraded to Amateur Extra class in 1989.

## Future ~~SEA-PAC~~ Dates

June 5-7, 2020

May 31 – June 2, 2024

June 4-6, 2021

June 6-8, 2025

June 3-5, 2022

June 5-7, 2026

June 2-4, 2023

June 4-6, 2027

## V.E. EXAM SESSION

*Amateur License Exams at Our Savior's Lutheran Church—East Parish Hall  
(North and West— across the street from the Convention Center)*

*One Session—Saturday at 9 AM*

*Pre-registration requested. Walk-ins — If Space Available*

*Text or call John Bucsek at 503.803.6134*

# SEA-PAC WELCOMES OUR NWD GUESTS



**Mike Ritz, W7VO**, ARRL Northwestern Division Director is a 40-year plus Life Member of the ARRL and very active ham. Mike was first licensed in 1974 as WA6HKP and earned his Amateur Extra in 1983. His main radio interests are contesting and DX, mentoring new hams, and public service through the ARRL ARES program. He is a three term past President of the Willamette Valley DX Club and is Trustee for the Columbia River DX Club, which he founded to mentor new hams in HF operating. He has served as an ARRL Deputy Emergency Coordinator and Emergency Coordinator, an ARRL Accredited Volunteer Examiner, ARRL Registered License Instructor, author, and seminar presenter on a variety of ham radio topics. In 2018, he was elected ARRL Director for the Northwestern Division. Professionally, Mike holds degrees from Foothill College and San Jose State University, and had a successful career in the high tech telecommunications industry as an engineer, manager and director, prior to retiring in 2014 to focus on building his dream amateur station. When not on the radio he is busy working his small hobby farm in Scappoose, Oregon with his wife Shelley, W7VOX.



**Mark Tharp, KC7HDX**, ARRL Northwestern Division Vice-Director has been licensed since 1989 and holds an Amateur Extra Class license. He is a Life Member of the ARRL and has held numerous ARRL volunteer positions. Mark has held Section level positions of EC, DEC, OOC, ASM and AD.

Mark's other amateur radio activities include, contesting, repeater building, hamfests', VE testing, and being an Elmer. He feels it is important for amateur operators to be involved by promoting and participating in not only League activities but amateur radio as a whole.

"73 and Welcome to SEA-PAC."

# SCHEDULE OF EVENTS

## Friday, May 31

<b>Friday Workshop:</b> "Power and Communication When Everything Goes Dark" (Riverside Room) .....	9:00 AM - 5:00 PM
<b>Registration Open</b> .....	11:00 AM - 8:00 PM
<b>Exhibitor/Flea Market Set-Up</b> .....	11:00 AM - 8:00 PM
<b>Friday Workshops "No-Host" Lunch</b> .....	12:00 Noon
<b>SEA-PAC Special Event</b> - Portable Stations at the Beach (Across from the Shilo Inn) .....	7:00 PM
<b>Amateur Satellite Demonstration</b> at Stations at the Beach (Across from the Shilo Inn) .....	7:00 PM (approx.)

## Saturday, June 1

<b>Exhibitor/Flea Market Set-Up</b> .....	7:30 AM - 9:00 AM
<b>Registration Open</b> .....	8:00 AM - 4:30 PM
<b>VE Exams</b> (Pre-registered only at Lutheran Church) .....	9:00 AM
<b>Exhibits &amp; Flea Market Open</b> .....	9:00 AM - 4:30 PM
<b>Snack Bar</b> .....	9:00 AM - 4:30 PM
<b>Seminars</b> (Convention Center).....	10:00 AM - 5:00 PM
<b>Hourly Prizes</b> .....	10:00 AM - 3:00 PM
<b>ARRL Forum</b> (Riverside B) .....	10:00 AM - 11:50 AM
<b>Amateur Satellite Demonstration</b> (Next to the electronic sign on the NW corner of the convention center parking lot) .....	11:20 AM & 12:30 PM
<b>DX Luncheon</b> (Shilo Inn).....	11:30 AM - 12:45 PM
<b>SEA-PAC Saturday Major Prizes Drawing</b> .....	2:30 PM - 3:00 PM
<b>Pre-Banquet Happy Hour</b> .....	6:00 PM - 7:00 PM
<b>SEA-PAC Banquet</b> (Convention Center).....	7:00 PM
<b>Amateur Satellite Demonstration</b> at Stations at the Beach (Across from the Shilo Inn) .....	7:00 PM (approx.)

## Sunday, June 2

<b>Registration Opens</b> .....	8:30 AM - 12:00 Noon
<b>Exhibits only Open // No Flea Market</b> .....	9:00 AM - 12:00 Noon
<b>Hourly Prizes</b> .....	9:00 AM - 11:00 AM
<b>Seminars</b> (Convention Center) .....	10:00 AM - 12:00 Noon
<b>Snack Bar</b> .....	9:30 AM - 2:00 PM
<b>SEA-PAC Sunday Major Prizes Drawing</b> .....	1:00 PM - 2:00 PM
<b>SEA-PAC Convention Closes</b> .....	2:00 PM

# BANQUET

## SEA-PAC Keynote Speaker



**Jeri Janet Ellsworth, AI6TK**, was born in Georgia and grew up in the cities of Dallas and Yamhill, Oregon, where she was raised by her father the owner of a Mobil gas station. As a child, she persuaded her father to let her use a Commodore 64 computer that he had originally bought for her brother. She learned to program for herself by reading C64 manuals. While attending high school, she drove Dirt Track racing cars with her father and began designing new models in her shop, eventually selling her own customized race cars. This allowed her to abandon her studies to continue with the business.

She is a self-taught entrepreneur and designer of integrated circuits and American inventor. It was unveiled in 2004, when she created a complete Commodore 64 system on a chip located inside a joystick, which he called "C64 Direct-to-TV". In 1995, when she was 21 years old, she decided that she wanted to get away from the racing car business, and together with a friend she started a business of assembling and selling computers based on the Intel 486 microprocessor. This new business became a chain of 4 stores, called "Computers Made Easy".

In 2016 she became a licensed amateur radio operator and holds an Extra Class license.

## Banquet Prizes

Kenwood TM-D710G 2m/70cm mobile

Icom IC-V86 HD 2m handheld

Yaesu FT-60R 2m/70cm handheld

...and more

*Banquet Master of Ceremonies: Everett Curry, W6ABM*

## C.A.R.S. Country Store

As a service to flea market buyers the C.A.R.S. (Cascade Amateur Radio Society) club provides a testing center for equipment. A power supply, voltmeter, service monitor, oscilloscope and frequency counter are a part of their testing equipment. Check out what you are considering buying. Neither C.A.R.S. nor SEA-PAC can accept responsibility for the condition of any equipment nor can be held responsible for any damage as a result of use of test gear. As an additional service to the amateur radio community, C.A.R.S. also provides a Country Store where rigs and other equipment will be displayed for sale. Have a piece of gear to sell? As an additional service, we will consign it for you at a reasonable charge. Remember, your boat anchor is someone else's dream machine!



## SEA-PAC Pocket Lanyard

The SEA-PAC Lanyard can be purchased for only \$5 at the extra prize ticket table in the lobby.

Previous year purchasers that bring their lanyards can pick up a free replacement 2019 pocket booklet at the prize ticket table in the lobby.

This timeless lanyard has a clear pocket in the front for your name badge, a zippered pocket on the top to hold lunch, banquet, or raffle tickets and other small items, and a clear pocket on the back to hold the free pocket book of SEA-PAC activities for reference while attending the convention.



## 7th AREA QSL BUREAU

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# EXHIBITORS

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American Radio Relay League  
Arcom Controllers  
Arlan Comm "Radio Headsets"  
ARRL 7th QSL Bureau  
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Buddipole  
Cat Tails Design  
Compudigital Industries  
Data Environment  
DC Power, LLC  
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Fast Track Ham Books & Presentations  
Flex Radio Systems  
Ham Gear by E&M Embroidery  
Ham Radio Outlet  
Hip Ham Shirts  
Hi-Tech Liquidators

ICOM America  
ICS Controllers  
J.Poles  
JVC Kenwood  
Larry's Antennas  
Martronics  
MFJ Enterprises  
NW Digital Radio  
NCG Corp (Comet/Daiwa)  
Oregon ACES  
Pacific Amateur Radio Guild  
Powerwerx  
PreciseRF  
QRPworks, LLC  
SteppIR Communications System  
Sunset Empire ARC / W7BU  
Ventenna  
Western Case  
Washington State Guard  
Wired Communications  
Yaesu USA  
Young Ladies Radio League (YLRL)



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*Due to publication deadlines we apologize for any changes or omissions.*

# PRIZE DONORS

## Prizes Donated By Exhibitors

ABR Industries  
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 Elecraft  
 Expert Linears America  
 Fast Track Ham Radio Books  
 FlexRadio Systems  
 Ham Gear by E&M Embroidery  
 Ham Radio Outlet  
 Hip-Ham Shirts  
 Hi-Tech Liquidators / NW Radio  
 Icom America  
 ICS Controllers  
 J.Poles.com  
 Larry's Antenna  
 Mastrant  
 NCG Co (Comet/Daiwa)  
 NW Digital Radio  
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 Precise RF  
 QRPworks, LLC  
 Remtronix (Alinco)  
 SteppIR  
 The Ventenna Co.  
 Tigertronics  
 Western Case  
 Wired Communications  
 Yaesu USA

## Merchants Donating Prizes

### Seaside, OR

Best Western Ocean View Resort  
 Camp 18 Restaurant & Gift Shop  
 Dooger's Seafood & Grill  
 Ebb-Tide Oceanfront Inn  
 Hi-Tide Oceanfront Inn  
 Holiday Inn Express & Suites  
 Inn at Seaside  
 Motel 6 at Seaside  
 Norma's Seafood & Steak  
 Pig 'N Pancake  
 Pizza Harbor  
 Portland Fudge  
 River Inn at Seaside  
 Sam's Seaside Café  
 Seaside Chamber of Commerce  
 Seaside Helicopters

### Nehalem, OR

Nehalem Bay Winery

### Vancouver, WA

Pulse Electronics (Larson Antenna)



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 on Instagram!  
 (seapac\_hamradio)

*Please express your appreciation to the many dedicated volunteers, vendors,  
 and flea-marketers that made SEA-PAC 2019 possible.*

*The SEA-PAC committees are listed on page 42.*

# SEA-PAC Prizes

## Saturday Major Prizes

*Saturday 2:30 - Must be present to win*

Icom IC-7100 HF/6M/2M/70cm DSTAR Mobile  
Yaesu FT-DX1200 HF/50Mhz radio  
Yaesu FTM-400XDR 2M/70cm C4FM Deluxe mobile  
Icom IC-718 HF160-10MHz HF radio  
Yaesu FT-2DR 2M/70cm C4FM handheld  
Icom ID-4100A VHF/UHF DSTAR mobile  
Davis Instruments 6250 - Vantage Vue Weather Station  
Yaesu FT-70DR 2M/70cm C4FM handheld  
... and more

## Sunday Major Prizes

*Sunday 1:00 - Must be present to win*

Elecraft KX3/PX3SHKPK-F Shack in a Pack transceiver  
Icom IC-7300 HF/50MHz transceiver  
Kenwood TS-480 HX HF/50MHz mobile  
Kenwood TH-D74A 2M/220/70cm handheld  
Icom ID-5100A 2M/70cm DSTAR Deluxe mobile  
Sharp 55" 4K Ultra HD Roku TV  
Kenwood TM-V71A 2M/70cm Mobile  
Alinco DJ-G7T 2M/70cm/23cm handheld  
... and more

## Early Bird

*Need not be present*

*Registrations received by April 15, 2018*

Yaesu FT-8900R 10m/6m/70cm FM mobile  
Kenwood TH-K20A 2m handheld  
Icom IC-V86 HD 2m handheld  
Yaesu FT-60R 2m/70cm handheld

ALL PRIZES SUBJECT TO CHANGE

## **Monte L. Simpson, AF7PQ** **Western Washington Section Manager**



**Monte Simpson, AF7PQ**, was first licensed as a Technician in 1992 as KB7RID. He then upgraded in 2007 to General and to Extra in April 2015. For over 20 years he has been an active operator, promoting Amateur Radio and the ARRL at every opportunity. Monte served as an AEC, EC, DEC, ASEC, OO and ASM in Western Washington. He is a member of the VHF/UHF Century Club (VUCC). As Section Manager, he works hard to strengthen Amateur Radio in Western Washington. The ARES program is head and shoulders above other programs in the country. Our OO program is the most active in the nation, logging several hundred hours of monitoring each month. The Technical Specialist program has transformed into a Technical Assistance program, for the benefit of all Hams - new or old. He believes the health of the ARRL and continued growth are based on the key components of our Affiliated Clubs and the VE program. We need to attract young energetic hams into our ranks. ARRL is truly an organization of diversity in many aspects.

Monte, and his wife June of 49 years, have 2 children: Tiffany, who lives in Bremerton and Lamont who lives in Dallas, TX. He is retired from the State of Washington where he served as a public safety communications manager. For the past seven years, he has served in the Washington State Guard.

**2019 is ...**  
**the ARRL's 105<sup>rd</sup> year,**  
**SEA-PAC's 37<sup>th</sup> year,**  
**and the YLRL's 80<sup>th</sup> year**

# SEA-PAC DX & YL Luncheons

## DX Luncheon Speakers

**Joe Kelly N7BF, Russ Mickiewicz N7QR,  
Everett Curry W6ABM, Peter Moore ZL2HM  
"2018 Norfolk Island DXpedition "**

Among the many ARRL Northwestern Division hams who travel to world sites to provide DXpedition QSOs, three of the 2018 NORFOLK ISLAND DXpedition are from the Portland area and members of Oregon Tualatin Valley Amateur Radio Club. Joe, Russ, and Ev were joined by Peter Moore of Waipawa, in the east of the North Island of New Zealand. Joe and Russ met on a previous DX trip. Their goals and results will encourage others to undertake a similar challenge.

## YL Luncheon Speaker

**Jeri Ellsworth, AI6TK**

**The Challenge Of Doing"**

Growing up in rural Oregon, how do you get into dirt track car racing; commodore computers, and business? Jeri is living that story. She'll share the excitement of "doing" at the YL Luncheon.

Be sure and visit the Mountain Wave, Multnomah County ARES and N7DOD communication trailer displays across the street from the Convention Center.

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1" Tinned Copper Flat Ground Braid (PN:235-5X), 7ga 85/Amps w/1/4" Stud Ring Terminals. Quick & Easy Grounding Terminations.

Part #	Length/Ft
235-5X-20	20
235-5X-10	10
235-5X-5	5
235-5X-3	3

1ft to 25ft readily available  
Custom lengths and Bulk available



1/2" Tinned Copper Flat Ground Braid (PN:2332-4X), 10ga 53/Amps w/1/10 Stud Ring Terminals. Quick & Easy Grounding Terminations.

Part #	Length/Ft
2332-4X-12	12
2332-4X-10	10
2332-4X-5	5
2332-4X-3	3
2332-4X-1	1

1ft to 25ft readily available  
Custom lengths and Bulk available



2332-G4 Vehicle Ground Braid (PN:2332-G4) Unique design (Nickel Grommets 4" Spacing) allows for easy attachment to a vehicle's body or truck bed to create a "ground plane" Good option as a buss-bar in the shack 1/2" wide tinned copper 38x48x3/4 10ga 53 amps

Part #	Length/Ft
2332-G4-10	10
2332-G4-5	5
2332-G4-3	3
2332-G4-1.5	1.5

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Available with PL259, SO239, N-Type, TNC, BNC, SMA, and Reverse Polarity connectors

### Attenuation per 100ft

2.0dB @ 30MHz
2.5dB @ 50MHz
6.4dB @ 150MHz
7.8dB @ 450MHz

### Power Rating

0.70KW
0.54KW
0.31KW
0.18KW



ABR213 (PN:2213A) MII-SPEC (.405" diameter) Stranded Center Conductor, 66% VP, 97% BC Braid. Type II Jkt (Direct Burial) Available in Bulk or with PL259s, BNCs, N Type, TNC, SMA, or 7-16 Din Connectors.

Attenuation per 100ft	Power Rating
0.6dB @ 10MHz	3.4KW
1.0dB @ 30MHz	1.9KW
1.4dB @ 50MHz	1.5KW
2.4dB @ 150MHz	0.83KW
4.5dB @ 450MHz	0.45KW

Stocked Lengths 1.5ft to 200ft  
Custom assemblies and Testing services available.



### ABR316/U (PN:23316)

Available in standard configurations in 3ft, 6ft, 9ft, and 12ft.

### Connector Options

N Male to N Male  
SMA Male to SMA Male  
SMA Male to SMA Female  
SMA Male to SO239  
SMA Male to PL259  
SMA Female to SO239  
SMA Female to PL259  
Custom assemblies available



ABR240-UF (PN:218XA) RG-8X size (.240") Stranded Center Conductor, 85% VP, 95% TC Braid / 100 Foil, Type II Jkt (Direct Burial) Available in Bulk, W/ PL259s, BNCs, N Type, TNC, SMA, or Reverse Polarity Connectors.

Attenuation per 100ft	Power Rating
0.9dB @ 10MHz	2.16KW
1.6dB @ 30MHz	1.24KW
2.1dB @ 50MHz	0.96KW
3.6dB @ 150MHz	0.55KW
6.3dB @ 450MHz	0.31KW

Stocked Lengths 1.5ft to 150ft  
Custom assemblies and Testing services available.



ABR400-UF (PN:24500F) RG-8/U size (.405") Stranded Center Conductor, 86% VP, 95% TC Braid / 100 Foil, Type II Jkt (Direct Burial) Available in Bulk, W/ PL259s, BNCs, N Type, TNC, SMA, or 7-16 Din Connectors.

Attenuation per 100ft	Power Rating
0.8dB @ 30MHz	2.77KW
1.1dB @ 50MHz	2.14KW
1.8dB @ 150MHz	1.22KW
3.3dB @ 450MHz	0.69KW

Stocked Lengths 1.5ft to 200ft  
Custom assemblies and Testing services available.



ABR400 (PN:24400) RG-8/U size (.405") Solid Center Conductor, 86% VP, 95% TC Braid / 100 Foil, Type II Jkt (Direct Burial) Available in Bulk, W/ PL259s, BNCs, N Type, TNC, SMA, or 7-16 Din Connectors.

Attenuation per 100ft	Power Rating
0.7dB @ 30MHz	3.33KW
0.9dB @ 50MHz	2.57KW
1.5dB @ 150MHz	1.47KW
2.7dB @ 450MHz	0.83KW

Stocked Lengths 1.5ft to 200ft  
Custom assemblies and Testing services available.

## HAM RADIO OUTLET

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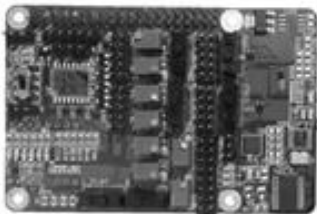
## David Kidd, KA7OZO Oregon Section Manager



David Kidd, KA7OZO, was first licensed in 1981 as a Novice and stayed that way for a long time, enjoying the challenges of that class in a time of great propagation. He later upgraded to Tech+. Eventually, he was involved in establishing ARES in Clackamas County Oregon and became the EC in 2003. David also previously held the D-1 DEC position for five years.

David was appointed Oregon Section Manager in July 2018. During his ham career, besides ARES, he enjoys county hunting, DXing, QRP & QRPp and trying out other aspects of our fine hobby. David is a United States Marine until the day he dies, is a combat veteran, and is now retired with 14 years active Marine Corps duty. He also served 16 years in the Army Reserves and Oregon National Guard.

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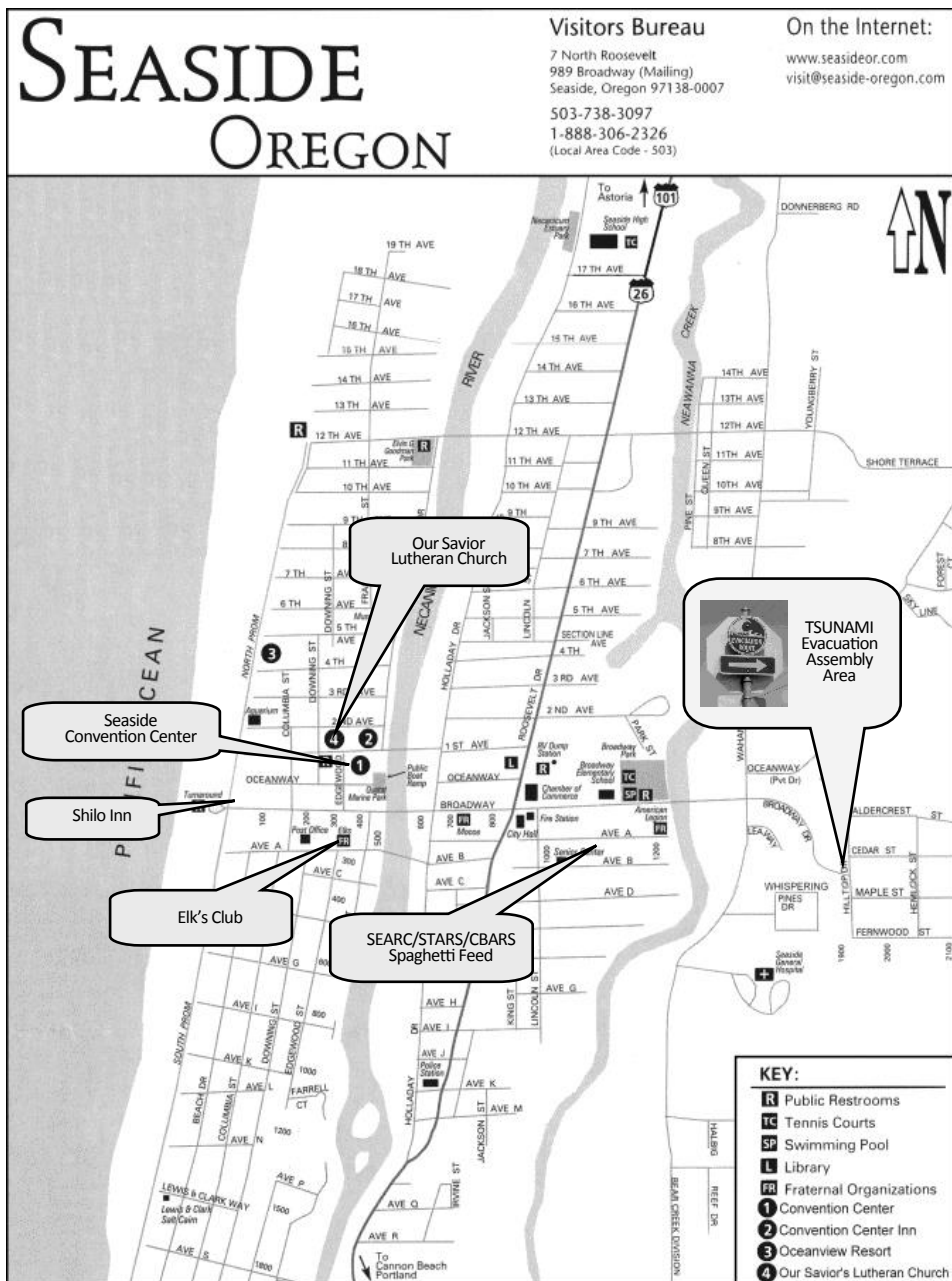
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# SEA-PAC Activity Locations



# SEMINAR SCHEDULE

			Riverside A	Riverside B	Riverside C
Day	Time		A	B	C
Sat	1000-1050	1	20 Years After PSK-31 (K7AGE)	ARRL Member Forum a (W7VO/KB7HDX)	Operating Portable and Having Fun! (W3FF)
Sat	1100-1150	2	Getting Started with FT8 Digital Mode (KT7G)		How I Shrunk the Amp (WA6HHQ)
Sat	1200-1250	3	Easy antennas for VHF and UHF (K17FBQ)	Flex Radio: Benefits to Rag-chewers, DXers, and Contesters (N5AC)	Repeater Coordination in Western Washington (KU7M)
Sat	1315-1415	4	Low Band Receiving Antennas In Depth (K7TJR)	Future of Ham Radio - The Changing Landscape (K5UR)	Can RF-Receivers detect Earthquakes? (VE7DXW)
Sat	1510-1600	5	The Storied History of the Ham Radio Callsign (W7VO)	Planning a suitcase DX-expedition (W6ABM)	Raspberry Pi Radio Projects (WA9ONY)
Sat	1610-1700	6	7th Area QSL Bureau (NE7D)	HamWAN (N7DOD)	DRAWS - Digital Radio Amateur Work Station (K7UDR)
Sun	1000-1050	7	Ham Radio Travels (K7AGE)	DMR Basics and PNW DMR Update (N7ER)	How to Build a Repeater (AK6OK)
Sun	1100-1150	8		DMR Hotspot Setup, Techniques, and Equipment (W7NCX)	

# SEMINAR SCHEDULE

Seaside A	Seaside B	Seaside C	Sunrise
D	E	F	G
Intro to Software Defined Radio (K15ENW) (Steve)		Using what I know from Ham Radio to start a Career (AK6OK)	Intro to Ham Radio, and How to Earn a License (NS7U)
The CW Way of Life - Why Morse matters in an FT8 world (NW6V)	Go Kits for VHF/UHF and HF (N7SS)	Recruiting New Hams (NQ1R)	Get on the air, VHF/UHF and HF (NS7U)
EYEWARN - Visual Reporting for our Emergency Coordinators (KD7RUS)	Parks on the Air - Portable Operation Fun (K7JSG)	Effectively Welcome the New Ham (AF7KB)	Welcome to the National Traffic System (NTS) (KU0L)
Affordable Software Defined Radio Receiving with an RTL-SDR (KE7WNB)	Characterizing Base Station Performance Using Advanced Measurements and Drones (N7KP/WA9ETO)	Why Upgrade to General or Extra? (W7UUU)	Amateur Radio Repeater Technician 101 (W7PM)
Introduction to Digital Amateur Television (D-ATV) (KU7PDX)	RF Cable Principles (KG5MNH)	Go Take a Hike! Simple and Successful Portable QRP Operating (KF0UR)	Providing Emcomm Services Directly to the Public (N6VI)
YL Forum- Prepare for Public Service (AC7UH/AA6MR)	Network Radios (KE7ZMA)	Ham Legal Forum (K2ASP)	
	Before Help Arrives (W1EMT)	Ham Radio for the Non-ham (W6ABM)	
Getting started with HF operating (AF7KB)	Stop the Bleed! (W1EMT)		

# SEMINAR SUMMARIES

Grid	Presenter(s)
1A	Randy Hall (K7AGE): PSK-31 was introduced in 1998 and led the popularity of modern digital modes. The PC, simple audio interfaces and free software made PSK-31 easy. Learn about the early days of PSK-31.
1B	Mike Ritz (W7VO); Mark Tharp (KB7HDX): Come and learn about issues facing the ARRL, and ask questions of ARRL officers and staffers. Our NW Director and Vice Director, plus ARRL CEO and ARRL President will attend.
1C	Budd Drummond (W3FF): Budd has fun with amateur radio, antenna building, and life! Come and get infected with a spirit of fun and exploration.
1D	Steve Brightman (Steve): Software-defined radio offers more flexibility than past radios. Learn how to understand and appreciate what they can and cannot do.
1F	Jeff Hilliard (AK6GOK): Presentation mainly for the younger folks to spark some ideas about how they could use the things they have learned in amateur radio to start a company and make a living.
1G	Delvin Bunton (N57U): Have questions about this hobby called ham radio? Or how to get into the hobby and earn a license. Come learn the basics and ask questions.
2A	Rick Smith (KT7G): Getting started with FT8. What is it? How do we get on it? Setting up and running the mode is explained with secret tips for more QSOs.
2B	Mike Ritz (W7VO):
2C	Eric Swartz (WA6HHQ): Learn how Elecraft engineers shrunk the amp.
2D	Chris Rutkowski (NW6V): Does CW still have a place in ham radio with the profusion of digital modes such as FT8? You bet! Come learn why Chris believes CW is worth learning, and remains viable in this digital age.
2E	Scott Honaker (N755): Making your emergency radio gear portable is not only valuable for supporting emergency communications and events but it can make a clean and compact shack at home as well.
2F	Bob Inderbitzen (N01R): For ham radio to survive and thrive in the 21st Century, we need success finding and recruiting new hams. Come learn some ideas you might try in your area to increase the ham population.
2G	Delvin Bunton (N57U): Learn how to get on the air for the first time with either an FM or HF radio. The general principles are the same but some practices differ. Bring your questions, concerns, and gain confidence.
3A	Tim Dezellem (K17FBQ): Effective antennas are vital for ham radio success, but you need not spend a fortune for a good antenna. You can even build excellent antennas and learn while building it.
3B	Steve Hicks (N5AC): Learn benefits offered by FlexRadio, the Software Defined Radio pioneer and leader in the amateur radio market. Contesters, Dxers, and rag chasers will all benefit. Compare SDR vs. analog radios.
3C	Kenny Richards (KU7M): Come learn about the process for coordinating repeaters in Western Washington and the challenges faced with managing a limited and shared resource across many different groups in Amateur radio.
3D	Tim Kuhlman (KD7RUS): EYEWARN is a visual situation network for ham radio operators to collect information during a local disaster. This seminar will explain how EYEWARN works and how you can use it for your community.
3E	Scott Green (K7J5G): What is Parks on the Air and how you can participate. At the very least Scott may encourage you to go outside and breathe the fresh air while playing with radios.
3F	Michael Burnette (AF7KB): Too many hams pass the test but never push the button to talk on the air. Join a conversation on what has worked in some clubs, and learn some ways to improve our success and retention.
3G	Kevin Fox (KU0F): The National Traffic System (NTS) began soon after the ARRL was founded. Come learn more about NTS, what is it and why we have it. Also learn why the ARRL has a renewed interest in the NTS.
4A	Lee Strahan (K71JR): Do you need a receiving antenna separate from your transmitting antenna? Come learn the benefits and tradeoffs for doing so.
4B	Rick Roderick (KSUR): Over half of today's Hams are Technician class license holders. How do we meet the challenges of recruiting and retaining the next generation of Amateur Radio operators when other things attract them.
4C	Alex Schwarz (VE7DXW): Is it possible to detect earthquakes by measuring changes in the ionosphere? The RF-Seismograph team believe it may be possible. Come learn more about this exciting possibility.



# SEMINAR SUMMARIES

Grid	Presenter(s)
4D	John Bucsek (KE7WNB): The RTL-SDR V3 USB dongle, based on the RTL2832U DVB-T TV tuner chipset can receive from 500kHz to 1.75GHz. Discover how to use this affordable (\$20) receiver.
4E	Steve Kometz (N7KP); Tom Brinkoetter (WA9ETO): Drones can offer many benefits for managing radio sites. Take photographs close up far above ground, test response via signal generator, and hunt for interference.
4F	Dave Ellison (W7UUU): Presentation covers band by band all the antenna requirements for various HF bands, types of activities you can expect, and highlights many of the benefits to upgrading to General and beyond.
4G	Marc Peterson (W7PM): Want to learn how to maintain amateur radio repeaters? The seminar will cover repeater setup, programming, RX & TX alignment alignment and general Service Monitor use.
5A	Mike Ritz (W7VO): ever wondered how call signs evolved? They simply did not exist before Marconi sent his famous message from Cornwall, England to St. John's, Newfoundland. There is more to the story than most know.
5B	Everett "Ev" Curry (W6ABM): If you've ever wondered how to go somewhere semi-exotic and play radio on the other side of a pile-up, come learn how to plan your own suitcase DX-pedition. In most cases, no boats required.
5C	David Haworth (WA9ONY): The Raspberry Pi is a popular low cost single board computer often used in amateur radio projects. This seminar covers how to setup a Raspberry Pi computer and how to use it in SDR radio projects.
5D	Chris Arneson (KU7PDX): 8VSB, DVB, ATSC, H.264?! Learn the basics of the digital transmission of video over amateur radio frequencies. We'll discuss formats and type of equipment to look for in the surplus market.
5E	Benjamin Abramson (KG5MNH): Nearly all hams rely on coax cable to move electrons from radio to antenna. Learn more about the cable and how to decide what kind you need for your application.
5F	Shel Radin (KF0UR): Shel's presentation will show how easy it is to go QRP portable with a simple, lightweight setup, and achieve great results. He will describe his portable equipment, and show results from his outings.
5G	Marty Woll (N6VI): Emergency communications that directly serve the public. Many hams serve government agencies, but our neighbors and local community groups will likely need our skills, too. Learn of ways to start.
6A	Rocky Evans (NE7D): Any op working DX needs to be aware of how "The Buro" works and how to use it effectively. Learn exactly how your QSL Bureau functions and what it can do for you (and what it can't).
6B	Scott Burrows (N7DOD): HamWAN digital networks use 5GHz microwave radio equipment for use by amateur radio operators, emergency preparedness groups, and public safety locations. Come see what this technology is all about.
6C	Bryan Hoyer (K7UDR): This is a complete turnkey Raspberry Pi based solution with 2 Radio Interfaces for all aspects of Digital Radio including packet, APRS, FIDigi, and more.
6D	Barbara Yasson (AC7UH); Linda Ford (AA6MR): Learn what may be expected and how to prepare for a public service event. Typical events include local parades, food collection, runs and walks of various types, and maybe during emergencies.
6E	Steve Simmons (KE7ZMA): Learn about network radios, how they work, and how to get started using them.
6F	Phil Kane (K2ASP): Open discussion on legal issues that hams may face.
7A	Randy Hall (K7AGE): Presentation about Randy's travels this year to TWIT studios for ham nation, pacificon, AMSAT Huntsville, Quartzfest, operating from the Titan Missile Museum, Kennedy space center and Hamcation.
7B	Brad Estill (N7ER): This session will introduce DMR (Digital Mobile Radio) for amateur radio, give an overview of the PNW DMR system, update users on what's happening in the PNW DMR system today.
7C	Jeff Hilliard (AK6OK): Building a repeater guarantees you will learn new things as you build a real system. Listen to some of the challenges and things to avoid on the journey.
7E	Jim Wilmerding (W1EHT): Providing initial life saving first aid and care in a medical emergency.
7F	Everett "Ev" Curry (W6ABM): You hear them talking...rig, QSO, sun cycle...we have a magic decoder that gives you an idea about what they're talking about! We'll share it with you. Who knows? You might enjoy the ride.
8B	David Feldman (W7NCX): Learn how to setup a DMR hotspot and radio, and get on the air.
8D	Michael Burnette (AF7KB): Learn the basics for getting started with HF. The world literally opens up when you start communicating on the HF bands. And you need not spend a fortune to do so.
8E	Jim Wilmerding (W1EHT): Hemorrhage Control & Tourniquet Application.

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## SEMINARS BY TOPIC

Antennas	1C, 3A, 4A, 4E
ARRL	1B, 4B
Club Improvement	2F, 3F
Digital Communications	1A, 2A, 2D, 3A, 5D, 6B, 6E, 7B, 8B
Dxing, QSLs	5B, 6A
General Interest	5A, 7A
Ham History	5A
Ham Legal	6F
Intro to Ham Radio	1F, 1G, 2G, 4B, 7F, 8D
Licensing	1F, 1G, 4F
Operating	1A, 1C, 2A, 2D, 2G, 3D, 3G, 4B, 4F, 5B, 5G, 6A, 7F, 8D
Portable Operation	1C, 2E, 3E, 5B, 5F
Preparedness	2E, 4C, 7E, 8E
Public Service	2E, 3D, 3G, 4B, 4C, 4F, 5D, 5G, 7E, 8E
Radio Technology	2C, 3B, 4C, 4E, 5E
Raspberry Pi	5C, 6C
Repeaters	3C, 4G, 7C
Science	4C
Software Defined Radio	1D, 3B, 4D

### SEA-PAC Feedback

We appreciate feedback on your experience at SEA-PAC. To share it with us, send us an email with your comments to:

[suggestions@seapac.org](mailto:suggestions@seapac.org)

Thank you for attending SEA-PAC and thank you in advance for taking the time to help us make SEA-PAC 2019 an even better experience!



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### The 11th Annual STARS/SEARC

#### All You Can Eat Spaghetti Dinner

Everyone Welcome

Friday, May 31, 2019  
from 5:00 p.m. to 8:00 p.m.

Bob Chisholm Center,  
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## SEA-PAC Pin Contest Winner



**Greg Shuster, KI7DTS**, is new to Ham Radio. A lifelong interest in radio had led him to shortwave listening, with a bucket list item of getting a Ham license. In 2015, while web surfing, he discovered the FCC had dropped the code requirement and that motivated him to pursue Ham Radio. As a retired aerospace project engineer from California, he had been looking for a technical hobby to occupy his time. In



April of 2016 he took the test at a VE session offered by the Clark County Amateur Radio Club (CCARC) and got his Tech license. He joined the CCARC and passed his General in August. In 2017 he got involved with CCARC's Field Day providing muscle for set up and tear down. In 2018 he became the infrastructure coordinator for CCARC's Field Day, responsible for everything on site except radios, antennas and power. In 2018 he was asked to become the CCARC Public Information Officer (PIO) and in January 2019 was asked to be the SEA-PAC PIO. He has set up a modest HF base station at home in Camas, WA and is in the process of assembling a UHF/VHF capability as well. Greg is looking forward to a long and enjoyable future in Ham Radio. Be sure to purchase your 2019 SEA-PAC pin at the registration desk.

## Sponsor Lodging



## **SEA-PAC Special Events**

### **Portable Stations at the Beach**

*(On the beach west of the Shilo Inn)*

**Friday, June 1**  
**7:00 pm**

If you are in Seaside Friday evening, please come down to the beach west of the Shiloh and look for radio antennas. You are welcome to just visit with other hams, or bring a portable station and test out the “salt water amplifier effect “.

## **SEA-PAC Remembers**

### **Ed Clulow, N7TL (SK) 1935-2018**



Ed was born in 1935 and spent time in the Navy, Air National Guard and was an avid Amateur Radio operator. He obtained his General Class License in 1954.

In 1986 Ed and his wife Rosy, KA7CED, chaired the registration committee for the ARRL National Ham Convention held in Portland, OR. For several years he chaired the security and seminar committees for SEA-PAC.

Ed Clulow, N7TL was very involved with the Hoodview Amateur Radio Club since he joined right after the club was formed. He served as club president several times. He has held many other offices and chaired quite a few committees. Ed taught the ham radio classes and volunteered as VE. He was a great “Elmer” to many newbies in this hobby.

Ed was also an ARES member and helped Gresham Emergency Management Team install antennas and radios at the many fire stations in the City.

Ed was known for his smile and his willingness to help out along with sharing his knowledge. Ed had a sweet heart and a gentle demeanor.

## Ray Hollenbeck, KL1IL Alaska Section Manager



**Ray A. Hollenbeck, KL1IL**, was originally licensed in May 2002 as KL1IL and kept the same call sign. Ray has been a member of both the Anchorage Amateur Radio Club and the Matanuska Amateur Radio Association and has worked communication events with both groups. Ray usually works over 20 events a year and has been active as an Emergency Coordinator for the City of Wasilla for several years now. Ray spent 18 years in the United States Army holding Infantry, Signal, Finance and Criminal Investigation positions during his years of service. Ray retired from the State of Alaska in 2002. Ray is currently volunteering with the Matanuska-Susitna Borough Local Emergency Planning Committee as the Amateur Radio Representative. Ray has also been active in the local American Legion Post for the last 4 years.



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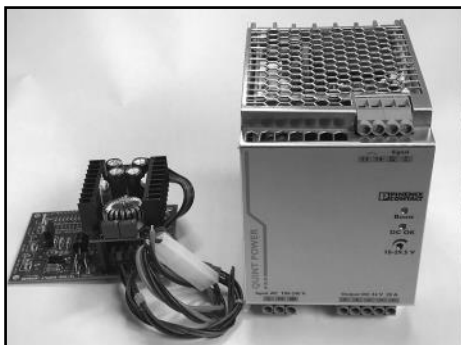
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## Amateur Satellite Operation Demonstration

K5EM (Justin) and KI7UNJ (Casey) will do Satellite Operation Demos throughout the week-end. K5EM will demonstrate Linear and FM satellite passes from the beach Friday and Saturday night as passes come across the sky. KI7UNJ will do two FM Satellite Demos on Saturday at 1120 and 1230 PST next to the electronic sign on the North West corner of the convention center Parking Lot.

## Tsunamis

Coastal areas along the Pacific Ocean sometimes experience earthquakes and the resulting tsunami waves. If you feel an earthquake:

- Drop, cover, and hold
- Move immediately inland to higher ground (see map on page 21)
- Do NOT wait for an official warning

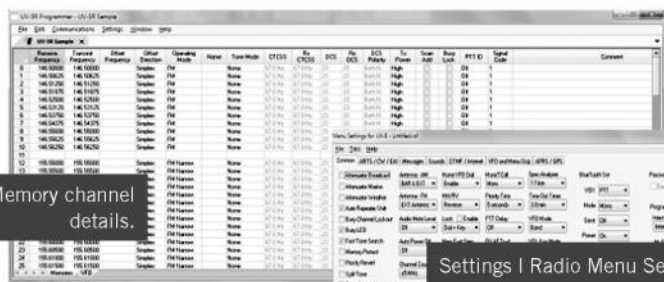
From the Convention Center, walk EAST on Broadway about  $\frac{3}{4}$  mile up the hill. Leave your car and walk because you will pass the folks stuck in traffic jams.

From Broadway Middle School, walk SOUTH to Broadway then EAST up the hill to the evacuation assembly area.

A local earthquake (along the Cascadia Fault Zone) may be your only warning. You likely have less than 15 minutes to reach higher ground. More distant earthquakes will not give the shake warning, so sirens will sound for 3 minutes at intervals.

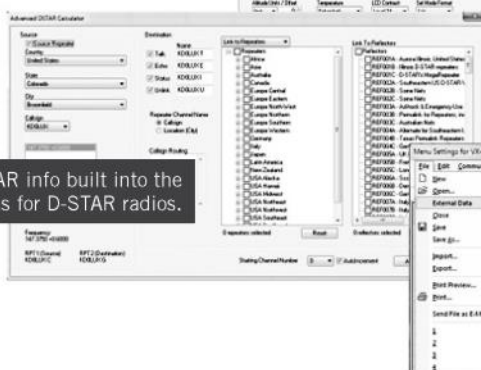
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## Dan Marler, K7REX Idaho Section Manager



**Dan Marler, K7REX**, was first licensed in as KN7REX in 1961 and has been an ARRL member for well over 50 years. He holds an Amateur Extra Class license and can be heard on the HF, VHF and the UHF bands. Amateur Radio has taken him on an enjoyable journey through a wide range of digital (including CW) and voice operating modes and he is currently active in promoting digital text and voice communications. He has served as an ARRL EC, DEC, and SEC in years past, and in April he became Idaho's SM.

He served eight years with the US Navy as a Radioman, followed by several years in Information Technology (IT) working for both fortune 500 companies, and in the government sector. He retired as an IT Administrator for FLSmith, a global engineering company. Dan also holds an FCC Commercial Radiotelephone license, and an FAA Commercial Pilots license.

## SEA-PAC Flea Market

Please take time to visit the numerous "flea-marketeers" who brought ham treasures galore to share with others. Their excess might be just the thing you need for a project! Flea Market sellers may wish to fill out a "Yes" card to reserve your table for next year, as long as you pay before we sell out. The Flea market coordinators will be passing these cards out to the tables during the event.

Please return the "Yes" card to the box marked for them at the Registration Desk before you leave. We plan to open next year's registration on the web site on February 15, 2020.



# Get Remote Tuning and Rotation for Great DX!



HG-1 Reviewed  
in June 2019

**QST**



Magnetic loop antennas (MLA), when properly tuned, are well known for their superior selectivity, low noise and high directivity. Remote tuners and antenna rotators play a big part in this. Introducing a new high gain antenna package - the outdoor deployable, all-weather, HG-1 WR PreciseLOOP®. This integrated package includes the HG-1 WR remote tuner, the AR-1 remote rotator

and the new universal HG-2 controller. One common CAT-6 cable controls both the tuning and antenna rotation. This new MLA is ideal for fixed deployment at your QTH, or in portable field operations. PreciseLOOP® antenna packages start at \$299.

## Unmatched Features

- 80m - 10m Bands\*
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\* Some items optional, check the website  
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## Mickley/Berg Memorial Scholarship Recipient



Emily Anderson, KJ7BOE, is from Silverton, Oregon and has had her Ham Radio license for about 6 months. Her dad, Joe Anderson (K17IOC), was the one that told her about the scholarship as well as got her involved in Ham Radio. He has been licensed for 3 years. This summer she plans to help her dad with communications for marathons. She helped with these last year and it was so much fun! This summer she will be going to London England on a STEM trip with her school. In London she will be

going to museums and to Stonehenge where they will learn the physics behind the structure and the math that went into building it. Math is her favorite subject in school. Emily is involved in numerous clubs as well as sports. The primary club is Future Business Leaders of America where she is the Chapter Vice President. Emily qualified for Nationals in Broadcast journalism by placing second at state this year. She is captain for the varsity tennis team and was the starting varsity libero for the volleyball team. She will be attending the University of Oregon next year and is thankful to be furthering her education there!

## George Forsyth, AA7GS Montana Section Manager



Licensed nearly 30 years, George is an Extra Class licensee. He has committed himself to build the Montana Section into a vibrant community where everyone is involved and recognized.

An ARRL Life Member with 28 years as a Volunteer Examiner. George served as President (five terms) of the Great Falls Area Amateur Radio club and Director of the Glacier/Waterton Hamfest.

## Convention Meeting Schedule

### Saturday

13:15-14:15 Oregon ARES Meeting

Convention Ctr — Admin Office

16:10-17:00 YL Forum

Convention Ctr — Seaside “A”

### Sunday

10:00-12:00 ARRL NW Division Cabinet Meeting Convention Ctr — Sunrise Room

## Jack (John) Tiley, AD7FO Eastern Washington Section Manager



John actively contributes to the amateur radio community by delivering Technician, General and Extra license classes. His support contribution includes the composition and sharing of license training syllabus for the Technician, General, Extra licenses which are available via download at [www.ad7fo.com](http://www.ad7fo.com). He is a member of the Inland Empire VHF Club (past President, Vice President and Director) and actively participates with the Spokane County ARES/

RACES (past AEC). In addition to his passion to provide pathways to licensing, John attends many amateur radio events including the Mike & Key, Yakima, and Spokane Hamfests, SEAPAC and many others. Most of his Amateur Radio activity resides on VHF/UHF via local repeaters and nets. Additional areas of interest are assisting with and solving technical problems by coaching and “Elmering” others. Extra Class Licensee. ARRL Appointments: Technical specialist, Certified instructor, EMCOMM instructor and Volunteer Examiner.

## Banquet Music



**Jim Fischer KD7KTV** is a lifelong musician. Whether teaching or performing, he lives the music. He has performed in Portland area venues and aboard cruise ships. Jim and Marsha live in Vancouver.



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- > Lightweight, rugged components
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[www.youtube.com/buddipole](http://www.youtube.com/buddipole)

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[info@buddipole.com](mailto:info@buddipole.com)

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# **SEA-PAC CONTACTS**

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# SEA-PAC COMMITTEES

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Warren Winner, W7JDT

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Mike Hurley, KG7BF

## FINANCIAL

Jim Schaeffer, KB7ADH

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Greg Shuster, K17DTS

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Candice Bucsek, KF7WPQ

Michael Nelson, N7IQM

Marilyn Melhorn, AF7MM

Gregory Pitts

Rita Tomison

Chuck Heil, K7FIZ

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Karen Busch, KB7AUM

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Jerry Sheffield, N7THL

Joann Rissberger

Jo Whitney, KA7LJQ

Jim Buxton, W7BUX

Dave Hoshaw, AF7NO

Fred Broussard, K7VW

## WEBSITE

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Melissa Nelson, WA7MEL

Gary Takis, K7GJT

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Gary Takis, K7GJT

Wayne Schuler, AI9Q

Everett Curry, W6ABM

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Tia Adams, KB8TIA

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Warren Winner, W7JDT

Mel Sutton, KB7PVW

Candice Bucsek, KF7WPQ

John Bucsek, KE7WNB

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Debbie Schaeffer, KG7DZD

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Steve Jackson, KD7ABE

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David Hoshaw, AF7NO

Virginia Taylor, KK7CCW

Barbara Robertson, K17BR

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Delvin Bunton, NS7U

Steve Gehlhausen, AI7A

## PHOTOGRAPHER

Greg Shuster, K17DTS

## FLEA MARKET

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Dave Wright, N7DWL (Setup)

Pete Mackie, KG7IXU

Will Hobbs, W17O

Jo Whitney, KA7LJQ

Bill Tomison, K7YIC

Dee Lynch, K7JRB

Jeff Dickenson, NR7J

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Tim Dezellem, K17FBQ

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Kathy McClanahan, N7YBN

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G. Bruce Maxwell, N5GB

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Barbara Robertson, K17BR

Marc Peterson, W7PM

Bob Churchill, AB7BC

Hal Rosene, KK7E

Justin Smith, W2ANN

Bill Spath, AG7PC

Aaron Schiess, K7ASJ

## Voice of SEA-PAC

David Goodnow (CNN)

## TALK-IN STATION

STARS (Seaside)

Sunset Empire ARC (Astoria)



## **The Wilse Morgan, WX7P, Memorial ARRL Northwestern Division Scholarship**

This scholarship fund has been endowed through the generosity of the members of the ARRL Northwestern Division in memory of Wilse Morgan, WX7P (SK). Wilse lived in Alaska and Washington and was deeply involved in ARRL and the many Amateur Radio activities in the Northwestern Division. Every year, a scholarship in Wilse's memory is awarded to an eligible young ham living in the Northwestern Division (Alaska, Idaho, Montana, Oregon, or Washington) active in emergency communications, contesting, DXing, or other Amateur Radio activities, and who is pursuing higher education to study engineering, medicine, science, or business.

To contribute to this scholarship, please go to [www.arrl.org/arrl-foundation-donation-form](http://www.arrl.org/arrl-foundation-donation-form) or contact Lauren Clarke, KB1YDD, at [lclarke@arrl.org](mailto:lclarke@arrl.org) or 860-594-0348.

If you know of a young person interested in applying for the Northwestern Division Scholarship, please have him or her visit [www.arrl.org/scholarship-program](http://www.arrl.org/scholarship-program) to learn more.

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**I want to be part of SEA-PAC '20- Please send me:**

☐ Registration Form      ☐ By e-mail      ☐ By US Mail

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**Fill out this form — Leave at the Registration Desk  
to receive information on SEA-PAC '20.**