Watershed Summit bresenters at our £ 40 expert **623 Participants**

Coastal & Heartland National Estuary

Partnership

or restored by the

habitat acquired

Acres of native

190'19





CHNEP area

ədt ni

natural resources

Generated from

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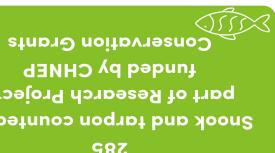














funded by CHNEP part of Research Projects Suook and tarpon counted as 285



local waterways



by volunteers in found per sample microplastics To sassiq 04



byosbyokns kemoved B negortin to abnuoq 899'678

CHNEP area

projects in the

by partner restoration

Real-Time Water Samples 989'819'728

data to the CHNEP Water Atlas Number of organizations supplying 123

5050 CHNEP BY THE NUMBERS





Coastal & Heartland National Estuary Partnership

Uniting Central and Southwest Florida to protect water and wildlife

COMMITTEE MEMBERS & MAJOR FUNDERS



















































































































Formed in 1995, the Coastal & Heartland National Estuary Partnership (CHNEP, formerly the Charlotte Harbor National Estuary Program) was designated by Congress to protect the exceptional estuaries and water resources in a 5,416 square mile area that includes the Peace, Myakka, Caloosahatchee, and Estero Rivers and the coastal waters of Dona and Roberts Bays, Lemon Bay, Charlotte Harbor, the Caloosahatchee, Pine Island Sound, and Estero Bay. CHNEP is non-regulatory, science and consensus-based organization, and is strongly supported by the state and local governments in its boundaries.

PURPOSE OF CHNEP

- To protect and restore water quality to swimmable and fishable standards in the CHNEP Area
- To restore healthy abundant fisheries and shellfish harvesting for commercial and recreational use
- To foster public-private partnerships between diverse stakeholders, including industry, governmental, and nongovernmental organizations for restoration purposes
- To protect federal resources in our study area including National Wildlife Refuges and numerous federally endangered species
- To leverage limited federal dollars with state and local funds, as well as private contributions, to implement more
- To provide environmental education experiences to youth, adult, and underserved populations
- To support local economies tied to our water resources





Coastal & Heartland National Estuary Partnership

326 West Marion Avenue Punta Gorda, FL 33950-4417 941-575-5090 www.CHNEP.org

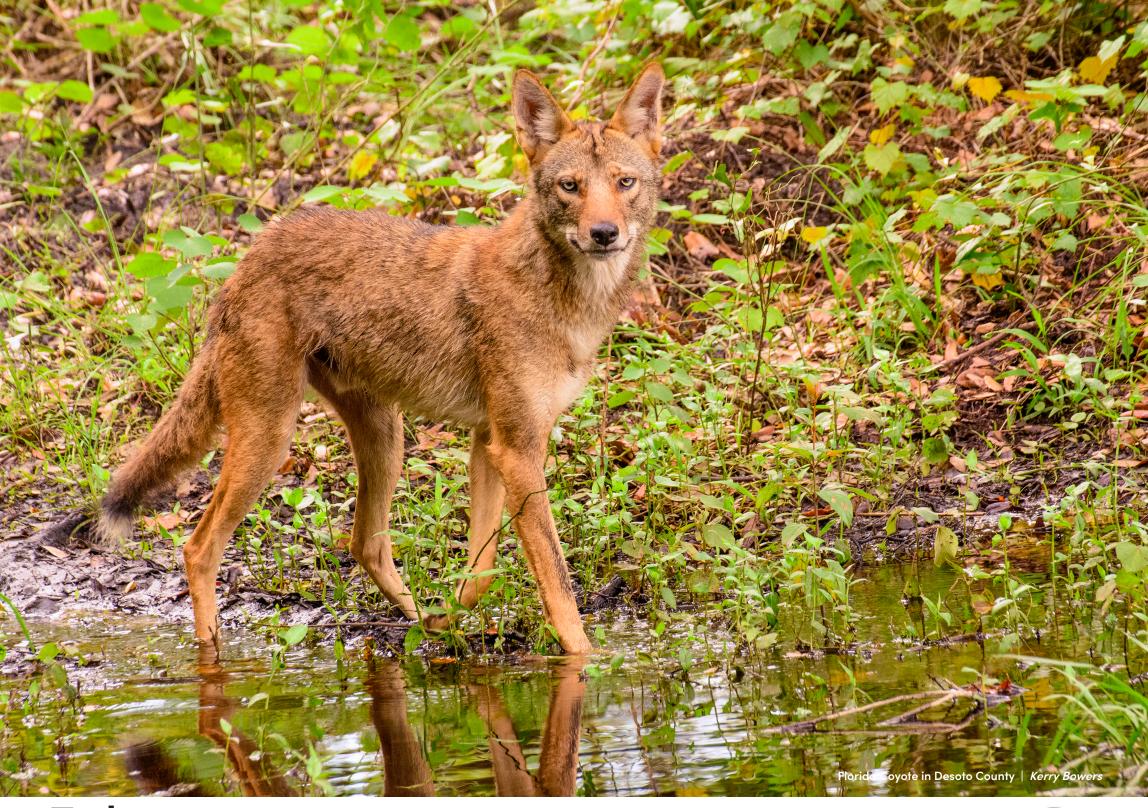
Executive Director: Jennifer Hecker | 941-575-3392 • jhecker@chnep.org Research & Outreach Manager: Nicole ladevaia | 941-575-3313 • niadevaia@chnep.org Finance & Grants Specialist: Andrew Webb | 941-575-3390 • awebb@chnep.org Public Outreach Specialist: Alexis Horn | 941-575-5090 • ahorn@chnep.org



January 2021



						ALL ESTLARY PARTS
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	Left: Zebra Wildflower F Eva Furner	Swallowtail at Preserve	CALENDAR CHNEP EVE	NTS	1 NEW YEAR'S DAY	2
W	4	5	6 PLAST QUARTER	7	8	9
10	11	12	13 • NEW MOON	14	15	16
17	18 MARTIN LUTHER KING JR. DAY	19	20 FIRST QUARTER	21	22	23
24 31	25	26	27	28 OFULL MOON	29	30



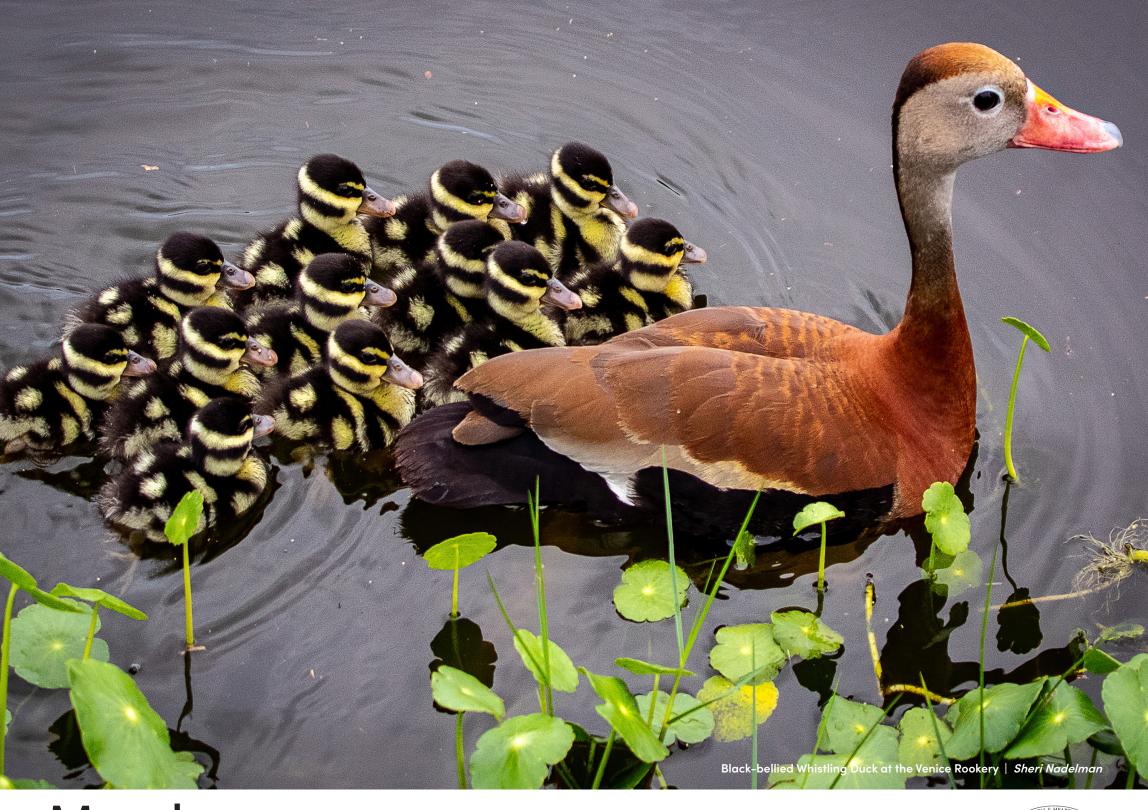
February 2021



SIGN-UP AT CHNEP.ORG

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4)LAST QUARTER	5	6
7	8	9	10	11 • NEW MOON	12	13
14	15 PRESIDENT'S DAY SHOREBIRD SEASON STARTS	16	17	18	19 FIRST QUARTER	20
21	22	23	24	25	26	27 OFULL MOON
28				Left: Yellow Rat Snake at Coker Prairie Reserve George Quittner		COME A

Right: Barred Owl in Sarasota Jonathan Crossman



March 2021



	-					ESTUARY PARTIN
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5)LAST QUARTER	6
7	8	9	10	11	12	13 • NEW MOON
14 DAYLIGHT SAVING TIME BEGINS	15	16	17	18	19	20 VERNAL EQUINOX
21 FIRST QUARTER	22 WORLD WATER DAY	23	24	25	26	27
28 OFULL MOON	29	30	31		Left: Zebra Lo Kathy Genaw	ingwing & Queen Butterfly



April 2021



Sı	unday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		Shoreling Jeff Sper	eat Egrets on Lake Hancock e at Circle B Bar Reserve nce Right : Florida Fox Squirrel		1	2	3
		Sarasota Mark Pro					
4) LAST QUARTER	5	6	7	8	9	10 GOPHER TORTOISE DAY
11	● NEW MOON	12	13	14	15	16	17
18		19	20 FIRST QUARTER	21	22 EARTH DAY	23	24
25		26 OFULL MOON	27	28	29	30 NATIONAL ARBOR DAY	



May 2021



						ONAL ESTUARY PARTNERS
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			Left : Sunset at Matlach <i>Llilys Benavides</i> Right : Limpkin at Circle <i>Robin Hagan</i>	ha Island		1 SEA TURTLE SEASON BEGINS
2	3 CLAST QUARTER	4	5	6	7	8
9	10	11 • NEW MOON	12	13	14	15
16	17	18	19 FIRST QUARTER	20	21	22
23 /30	24 31 MEMORIAL DAY	25	26 OFULL MOON	27	28	29

ECONOMIC VALUATION STUDY OF NATURAL RESOURCES

The CHNEP area of Central and Southwest Florida encompasses a few of the fastest growing population centers and economies in the entire country. Natural resources within the CHNEP program area, including scenic waterways and conservation lands, play a key role in the popularity and growth of the region. Many individuals are drawn to the area because of its beautiful scenery, warm weather, and recreational activities. With a growing population, it is important to improve our understanding of the connection between natural resources and the economy to better meet the needs of the public. Improvements to this natural capital, and maintenance of existing high quality natural capital, provide enormous economic benefits that are fundamental to the regional marketplace. This is in addition to the overall ecological value to the quality of life supported by a healthy natural environment.

To quantify this relationship, CHNEP commissioned a study on the economic impacts from tourism and resident spending related to natural resources, property value impacts, and the fiscal and economic contribution from restoration activities. The results of this study provide a better understanding of the economic activity tied to restoration, conservation and management activities in the CHNEP area.

Natural Resources in the CHNEP Area Generate:



\$13.6 Billion in Total Output



\$3.8 Billion in Regional Income



\$146 Million in Local & State Tax Revenue



and Support
Over 148,000 Jobs Annually

Results found \$13.6 billion in economic benefits from natural resource protection accrue throughout the CHNEP area annually. Additionally, no area receives negative impacts due to natural resource investments based on this analysis, investments have and will continue to pay off in economic terms.

Multiple streams of economic benefit generate values including: tourism, agriculture, and restoration itself.

Investments made by local governments and partners have paid off: returns from natural

resource-related spending have out-weighed costs by 3:1. Investments have included a wide range of activities, including:

- land acquisition for conservation purposes to protect water and wildlife habitat
- restoration activities to restore hydrologic function and improve estuarine waters
- infrastructure capital investments to benefit downstream ecosystems
- water storage systems to capture excess flows and manage discharges

Continued funding is necessary to support a healthy ecosystem, quality of life, and the economic activity that depends on these resources. This study affirms that the return on those investments will provide more jobs and support the economic growth for all communities in the CHNEP area.

To read the complete report and access the county and basin fact sheets - go to chnep.org/natural-resource-economic-valuation

A Note from our Executive Director

Uniting Central and Southwest Florida to protect water and wildlife



Great strides are being made on the research and restoration fronts with the Coastal & Heartland National Estuary Partnership's (CHNEP) support. This past year, the CHNEP completed data gathering for hydrological restoration in the Babcock Cecil Webb and Yucca Pens wildlife management areas in Charlotte County, funded sportfish habitat restoration research, completed an analysis and mapping project to create a comprehensive Habitat Restoration Needs Plan, and continued to fund water quality sampling in Charlotte Harbor as well as the CHNEP Water Atlas hub to house all publicly accessible water quality data in the region – to name a few of the many projects the CHNEP is directly conducting or funding.

Our membership now includes the active participation of elected leaders from the 10 counties in Central and Southwest Florida area we serve. This past year, we were glad to welcome Glades and Hendry counties and their input has been invaluable in how we can better protect and serve the communities in the Caloosahatchee basin. These efforts have been strengthened by a team of outstanding professional staff at CHNEP.

The CHNEP relies on strong community support and involvement to fulfill its mission. As such, the CHNEP organized and hosted a triennial scientific Watershed Summit with more than 40 presenters and over 600 participants - so that scientific experts could share the latest research findings and restoration results with each other and the public. Additionally, we hosted monthly in-person free volunteer events until the onset of COVID and then have provided information about virtual and social distanced field citizen science volunteer opportunities since. This, together with new educational publications and online learning resources, including our first Spanish-translated document, are reaching and engaging additional audiences in natural resource protection.

As we wrap up 2020, I am sure many of us are thankful to put what has been a challenging year behind us and are hopeful to turn the page to a new better year. While we adapted and carried forward in a socially distanced and virtual world, we are looking forward to resuming in person gatherings and working with citizen scientists and our partners again face-to-face. Until then, wishing you and your loved ones good health.

Jennifer Hecker

Caloosahatchee River Basin

The Caloosahatchee River basin is comprised of large portions of Charlotte, Lee, Glades, and Hendry Counties. The primary economic driver in the basin is tourism, followed by agriculture, commercial fishing, and ecological restoration. The basin's natural resource-based recreation (both residents and visitors) and ranching are the largest among the CHNEP basins.



Natural Resources in this Basin Generate Annually:



\$2.82 billion in Economic Benefits

\$2.04 million in Fishing Production



\$2.08 billion in Recreational Spending



\$2.05 billion in Property Value Impacts*



\$841 million in Agricultural Production



\$894K in Ecological Restoration

Charlotte Harbor Basin

The Charlotte Harbor basin is comprised of portions of Charlotte and Lee Counties. The primary driver in the basin is tourism, followed by agriculture, commercial fishing and ecological restoration. Activities related to recreational fishing play a large role in tourism spending in this area.

Natural Resources in this Basin Generate Annually:



\$494 million in Economic Benefits





\$573 million in Recreational Spending



\$776 million in Property Value Impacts*



\$3.45 million in Agricultural Production



\$417K in Ecological Restoration



Dona & Roberts Bays Basin

The Dona & Roberts Bays basin is comprised of portions of Sarasota and Manatee Counties. This is a relatively small, coastal basin. The primary driver in the basin is natural resource-based recreation (tourism), followed by agriculture, commercial fishing and ecological restoration.

Amanda Dominguez | Sarasota County

Natural Resources in this Basin Generate Annually:



\$607 million in Economic Benefits



\$234K in Fishing Production



\$661 million in Recreational Spending



\$267 million in Property Value Impacts*



\$28 million in Agricultural Production



\$231K in Ecological Restoration

Estero Bay Basin

The Estero Bay basin is comprised of about one-third of Lee County. The primary driver in the basin is natural resource-based recreation (tourism), followed by agriculture, commercial fishing and ecological restoration. Agriculture includes food crops, cattle and timber. The Estero Bay basin ranks second highest for commercial fishing.

Natural Resources in this Basin Generate Annually:



\$1.48 billion in Economic Benefits





\$1.50 billion in Recreational Spending



\$964 million in Property Value Impacts*



\$26 million in Agricultural Production



\$572K in Ecological Restoration



Lemon Bay Basin

Lemon Bay basin, a relatively small, coastal basin, is comprised of portions of Charlotte and Sarasota Counties. The primary economic driver in the basin is natural resource-based recreation (tourism), followed by agriculture, commercial fishing and ecological restoration. Agriculture consists of food crops, ranching and timber.



Natural Resources in this Basin Generate Annually:



\$497 million in Economic Benefits

\$1.08 million in Fishing Production



\$569 million in Recreational Spending



\$269 million in Property Value Impacts*



\$12.8 million in Agricultural Production



\$103K in Ecological Restoration

Myakka River Basin

Large portions of Manatee and Sarasota Counties and small portions of Charlotte, DeSoto, and Hardee Counties make up the Myakka River basin. Tourism is the primary driver of impacts, followed by agriculture, ecological restoration, and commercial fishing. The Myakka River basin ranks second highest among CHNEP basins for ecological restoration.

Natural Resources in this Basin Generate Annually:



\$703 million in Economic Benefits





\$609 million in Recreational Spending



\$157 million in Property Value Impacts*



\$230 million in Agricultural Production



\$1.80 million in Ecological Restoration



Peace River Basin

The Peace River basin is comprised of portions of Charlotte, DeSoto, Hardee, Highlands, Manatee, and Glades Counties The primary driver in the basin is tourism, followed by agriculture and ecological restoration. This basin ranks first for economic impacts of both agriculture and ecological restoration, and second for recreation.



Natural Resources in this Basin Generate Annually:



\$3.24 billion in Economic Benefits





\$2.30 billion in Recreational Spending



\$402 million in Property Value Impacts*



\$1.49 billion in Agricultural Production

\$6.14 million in Ecological Restoration

Pine Island and Matlacha Basin

The Pine Island and Matlacha basin represents a little less than one quarter of Lee County. The primary driver in the basin is natural resource-based recreation (tourism), followed by commercial fishing, agriculture, and ecological restoration. The Pine Island & Matlacha Pass basin ranks first among CHNEP basins for commercial fishing.

Natural Resources in this Basin Generate Annually:



\$1.35 billion in Economic Benefits

\$9.17 million in Fishing Production



\$1.39 billion in Recreational Spending



\$1.46 billion in Property Value Impacts*



\$3.81 million in Agricultural Production



\$131K in Ecological Restoration





June 2021



						WOMEN TO SERVICE AND ADDRESS OF THE PARTY OF
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
chnep.org/ your-wa	ERSHED	1 HURRICANE SEASON BEGINS	2 DLAST QUARTER	3	4	5
6	7	8	9	10 • NEW MOON	11	12
13	14	15	16	17 FIRST QUARTER	18	19
20 SUMMER SOLSTICE	21	22	23	24 OFULL MOON	25	26
27	28	29	30			Left: Butterfly on Purple Thistle at Palmer Lakes Art Nadelman



July 2021



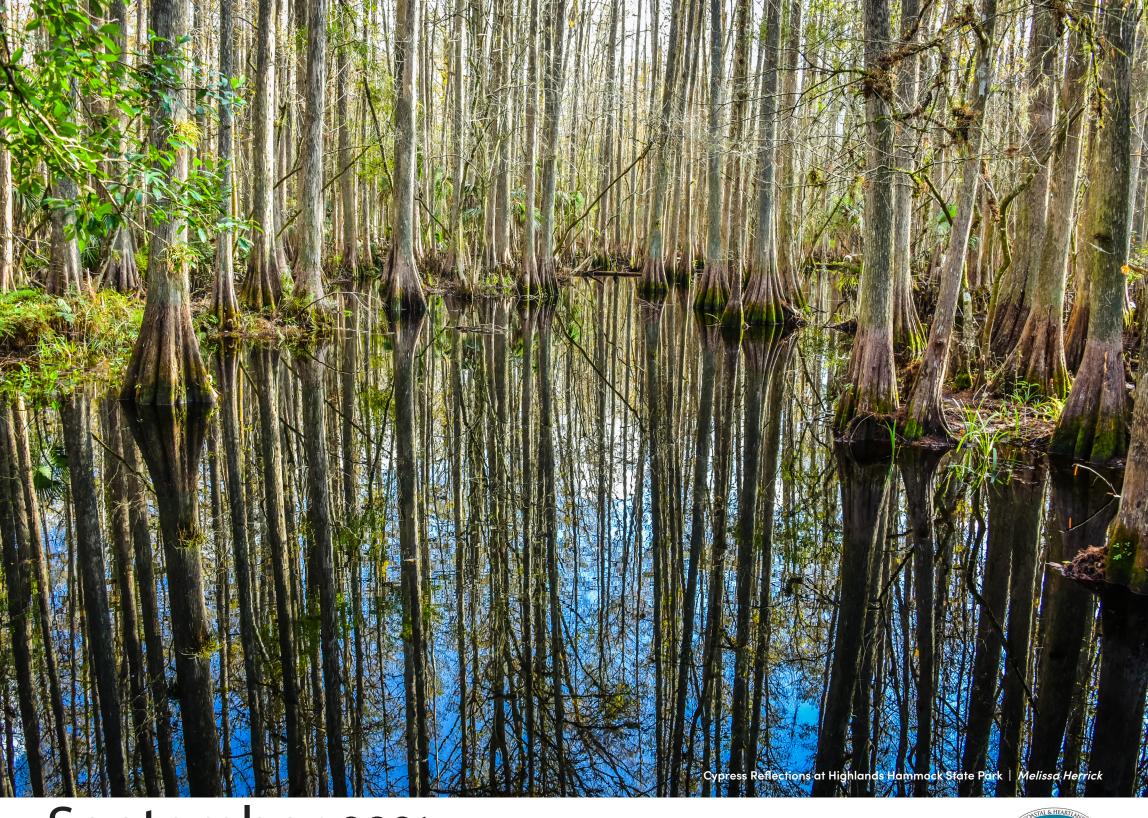
Sunday	y Monday	v Tuesday	Wednesday	Thursday	Friday	Saturday
	L	CAL eft: American Bald Eagle n Lemon Bay oel Riloff	2022 ENDAR IMAGE DEADLINE risit chnep.org for details	1)LAST QUARTER	2	3
4 INDEPENDENC	SE DAY 5	6	7	8	9 • NEW MOON	10
11	12	13	14	15	16	17 FIRST QUARTER
18	19	20	21	22	23 OFULL MOON	24
25	26	27	28	29	30	31)LAST QUARTER



August 2021



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8 NEW MOON	9	10	11	12	13	14
15 FIRST QUARTER	16	17	18	19	20	21
22 OFULL MOON	23	24	25	26	27	28
29	30 PLAST QUARTER	31				Left: Captiva Pass Looking to Cayo Costa <i>Michelle Kloese</i> Right: Manatee <i>Mary Presnail</i>



September 2021



•				COTOAKY PALI		
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Right : Glossy Ibis at Circle B Bar Reserve Steve Griffin			1 SHOREBIRD SEASON ENDS	2	3	4
5	6 LABOR DAY NEW MOON	7	8	9	10	11
12	13 FIRST QUARTER	14	15	16	17	18 INTERNATIONAL COASTAL CLEANUP DAY
19 NATIONAL ESTUARIES WEEK	20 FULL MOON	21	22 AUTUMNAL EQUINOX	23	24	25
26	27	28 PLAST QUARTER	29	30		UT YOUR WATERS teratlas.usf.edu



October 2021



	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		Left : Great Horne Doreen Steinhau	ed Owl Chicks	ISIT CHNEP.O SUBSCRI	RG TO	1	2
•	3	4	5	6 • меш моом	7	8	9
	10	11 COLUMBUS DAY	12 FIRST QUARTER	13	14	15	16
	17	18	19	20 FULL MOON	21	22	23
•	24 31 SEA TURTLE SEASON ENDS	25	26	27	28 PLAST QUARTER	39	30



November 2021



							COTUART TANK
Sunday	Monday		Wednesday	Thu	rsday	Friday	Saturday
	1	2	3	4	NEW MOON	5	6
7 DAYLIGHT SAVING TIME ENDS	8	9	10	11	VETERAN'S DAY (FIRST QUARTER	12	13
14	15	16	17	18		19 OFULL MOON	20
21	22	23	24	25	THANKSGIVING	26	27 PLAST QUARTER
28	29	30 HURRICANE SEASON ENDS					Left: Green Anole at Harns Marsh John Courtney Right: River Otter in Sarasota County Jonathan Crossman



December 2021



					TO ME	
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Right: Reflection, Pop Ash C Preserve Filter Marsh Edward Pelegrino Bottom Right: Seagrapes in S Meredith Blain			1	2	3	4 • NEW MOON
5	6	7	8	9	10 FIRST QUARTER	11
12	13	14	15	16	17	18 OFULL MOON
19	20	21 WINTER SOLSTICE	22	23	24 CHRISTMAS EVE	25 CHRISTMAS
26 PLAST QUARTER	27	28	29	30	31	

Calendar Image Contributors

Names of those who submitted images within the CHNEP area include: Capt. Ralph Allen, Theresa Baldwin, Llilys Benavides, Meredith Blaine, Lisa Borromeo, Kerry Bowers, Norman Brewer, Barbara Brooks, Cat Chase, Kinga Cook, John Courtney, Jonathan Crossman, Cara Czecholinski, Amanda Dominguez, Kevin Ellenbrandt, Bill Evoy, Eileen Fonferko, Linda Frothingham, Eva Furner, Glenn Gardener, Dave Garrison, Kathy Genaw, Steve Griffin, Robin Hagan, Mike Herms, Melissa Herrick, Brandon Hill, Ken Hubley, Michelle Kloese, Barbara Kovach Lockhart, Janet LoGalbo, Lynlee May, Butch McDaniel, Bill Morgan, Art Nadelman, Sheri Nadelman, Tony Palmer, Rhonda Paprocki, Edward Pelegrino, Justin Pelegrino, Lynn Pelletreau, Jackie Pope, Mary Presnail, Mark Proch, George Quittner, Michael Riccuito, Ava Riloff, Joel Riloff, Lisa Rogers, Lora Ross, Abrianna Sadler, Sharon de Silva, Linda Slade, Jeff Spence, Doreen Steinhauser, Connie Sweet, Gary Warren, Bob Waters, Sally Weigand, Elaine Weissborn, and Donna J. Whalen

CHNEP Donors

Donors who contributed \$50 or more in 2020 and whom are amenable to being acknowledged include the following: George & Linda Bryce, Janet & Bruce Bunch, Richard & Laura Burkin, Tio Campanile, Paulette Chernack, John Connelly, Herman & Helen Dahl, Todd Dary, John & Kate De Heer, Donna Farrow, Debra Fewell, David & Aileen Freenan, Mary Jo Gries, Mort & Ann Harkey, Hickory Hammock Native Tree Farm, The Jelks Family Foundation, Dorothy Kenyon, Louise Kowitch, Candace & John Marsellus, Hewitt McCloskey Jr., Shannon McGinnis, Sal Mellon, Arthur & Judy Moles, Mike Murray, William & Pamlea Mutz, Jude Panetta, Dallas Revord, Carol Rose, Andrew J. Simmons Jr., Roger Smith, Jennifer Starr, Jerry Tant, Sharon Taylor, Tom Vander Velde, Ray & Marilyn Wagoner, Keith & Donna Waltz, and Patricia Wilkin

CHNEP Volunteers

Thank you to those who volunteered in 2020 including: Monica Albertini, Lee Amos, Jeannie Amsalem, Conner Anderson, Stacey Anderson, Deborah Anlauf, Jeffrey Anlauf, Joyce Arenz, Sandy Artman, John Aspiolee, Karolyn Aspiolee, Katherine Aspiolee, Bob Bacon, Julia Balakleenko, Vanessa Barrera-Cortes, John Barrington, SR Bayne, Amy Betts, Marlou Bezeves, Richard Bothmer, Angela Box, Troop 110 Boyscouts, Linda Britton, Karen Buccitelli, Helen Buonviri, Joy Bush, Marylou Butler, Janice Cahn, David Carlson, Sam Cessna, Bonnie Chalifoux, John Chalifoux, Bob Clark, Sue Clark, Debbie Cole, Gary Cole, Andy Cotarelo, Reuben Cotarelo, Anna Cranmer, Julie Dodge, Cheryl Doran, Dennis Doran, Adele Dornheim, Elaine Dotson, Casey Dowd, Ron Dressler, Lynn Dunham, Linda Essex, Susan Evans, Anthony Favara, Tammy Flores, Tony Flores, Wayne Garber, Linda Garvey, David Gillian, Wanda Gillian, Rebecca Giusti, Linda Goodwin, Ken Griser, Kelle Gushue, Jeffrey Heck, Kevin Heck, Christopher Henry, Pamela Henry, Olivia Hernandez, Hannah Hill, Leighton Hill, Tanya Hill, Terry Hill, Jack Hinnenthal, Will Howell, Zach Howell, Loretta Ivey, Robert Ivey, Thomas James, Robb Johnson, Jayne Johnston, Julianna Katz, Aydin Khan-Bridgers, Rachel Krebs, Richard Larsen, Joyce Laubach, Savannah Lawson, Judy Leach, Anayah Lewin, Brenda Li, Evan Liebman, Sheri Liebman, David Manley, Linda Manley, Judy Marcucilli, Liana Martin, Linda Martin, Rick Mathis, Rose Mattera, Herb Mayer, Patti McDonald, Will Monroe, Lynn Montalbano, Paul Montalbano, Sarah Montell, Jessica Mroz, Lori Newton, Annette Nielsen, Ann O'Leary, Forrest and Cassandra Ormandy, Kathy Padula, Steven Pank, Jackie Pashko, Edward Pelegrino, Jennifer Pelegrino, Justin Pelegrino, Owen Pelegrino, Jose Perez-Barrera, Alfred Petterson, Barbara Presner-McKane, Harold Roebuck, Dana Ruque, Katy Schaan, William Schuyler, Jay and Kathy Seeger, Gina Sparks, John Sparks, Tatianna Stephenson, Hailey Stevens, Philip Stevens, Carl Story, Tracie Story, Kathleen Thai, John Vallone, Sierra Vicente, Nicholas Villagomez, Aaron Wagner, Mckenzi Walker, Michael Walters, Catherine Weber, Terry Weiner, Brittany Whaley, Dwight Whittaker, Zoe Williams, Barbara Zittel, and Bob Zittel

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