

Terrapin Times

The Newsletter of the Diamondback Terrapin Working Group Volume 5 Issue 2

Winter 2020



Photo: Amanda Williard

DTWG Membership Votes To Adopt Position Statement on Negative Effects of Crab Traps on Terrapin Populations



The unintended capture, or bycatch, of diamondback terrapins in commercial and recreational blue crab fisheries is one of the leading causes of terrapin population declines. Terrapins that are captured in fully submerged crab traps cannot reach the surface to breathe and may drown in a matter of minutes to hours. A Bycatch Reduction Device (BRD) installed in the funnel opening of a crab trap prevents terrapins from entering the trap by reducing the dimensions of the funnel opening. BRDs are typically rectangular in shape and can be constructed from plastic or heavy gauge wire. These devices are inexpensive, easily installed, and proven to be effective at reducing terrapin bycatch. Even so, BRDs face strong resistance from crabbers due to the perceived effects on crab catch. Alterations in BRD configuration or placement could alleviate some of the fishing community concerns regarding BRD impacts on crab catch and additional research and development of BRD designs is ongoing. The large majority of studies to assess the effectiveness of BRDs have shown no significant effect on crab catch and significant reductions in terrapin bycatch.

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Given the strong evidence for the negative impacts of fisheries interactions on terrapin populations and the effectiveness of BRDs in reducing terrapin bycatch, a group of DTWG Officers and Regional Representatives drafted a *Position Statement on The Negative Effects of Blue Crab Traps/Pots on Diamondback Terrapin Populations and the Use of Bycatch Reduction Devices as a Practical, Inexpensive Solution*. The Position Statement was forwarded to the DTWG Membership for an electronic vote in September 2020. The Position Statement was supported unanimously by all 30 Members who participated in the vote, and the Position Statement was officially

For more information on BRDs, please see the following resources:

<https://www.biologicaldiversity.org/species/reptiles/pdfs/Petition-Florida-DiamondbackTerrapin-BRD-2020-01-28.pdf>

<https://dnr.maryland.gov/wildlife/Documents/TerrapinBrochure.pdf>

https://www.vims.edu/research/units/projects/terrapin_brd/docs/terrapin_bdr_brochure.pdf



Illustration: Kelly Finan

Diamondback Terrapin Working Group



DEDICATED TO DIAMONDBACK TERRAPIN RESEARCH, CONSERVATION, MANAGEMENT, AND EDUCATION

The Diamondback Terrapin Working Group was formed in 2004 by individuals from academic, scientific, regulatory and private institutions/organizations working to promote the conservation of the diamondback terrapin, the preservation of intact, wild terrapin populations and their associated ecosystems throughout their range. The Diamondback Terrapin Working Group is committed to and supports research, management, conservation, and education efforts with the above goals in mind.

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Terrapin Times is the newsletter of the
Diamondback Terrapin Working Group

Editors Christina Mohrman & Amanda Williard

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Photo: Christina Mohrman



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Charlotte Sornborger is awarded the inaugural DTWG Citizen Conservation Award



Charlotte Sornborger is the first recipient of the DTWG Citizen Conservation Award.

The DTWG established the Citizen Conservation Award in May 2020 to acknowledge the outstanding contributions of community members to the conservation of diamondback terrapins. The DTWG Officers and Regional Representatives are happy to announce the Ms. Charlotte Sornborger is the first recipient of this newly established award. This award recognizes Charlotte's long-term efforts to protect diamondback terrapins in Rhode Island and to promote the conservation of diamondback terrapins through education and outreach. From 1986-2005, Charlotte served as President of the Barrington Land Conservation Trust (BLCT). Under Charlotte's leadership, the BLCT acquired over 100 acres of land and coordinated with the Barrington Town Council and the Rhode Island Department of Environmental Management to establish a 75-acre conservation easement to protect terrapin nesting sites. Charlotte's role in protecting important nesting habitats is a legacy that will contribute to terrapin conservation for years to come. Through Charlotte's collaborations with academic institutions she fostered a research program that resulted in a greater understanding of terrapin nesting behaviors in New England and contributed to the training of future scientists and conservationists. She established partnerships with the University of Rhode Island, Rhode Island College, Wheaton College, and many local elementary and high schools. She provided opportunities for high school interns to participate in terrapin mark-recapture studies and trained college students in research methods for terrapins.

Charlotte's work over the past three decades helped build consensus and support for terrapin conservation between governmental agencies, conservation organizations, and members of the public. Her efforts have been instrumental in protecting terrapins in Rhode Island. She is an excellent advocate for terrapin conservation and a very worthy recipient of the DTWG Citizen Conservation Award. Congratulations, Charlotte!

Do you know someone in your community that has made a significant contribution to the conservation of diamondback terrapins? Nominate them for the DTWG Citizen Conservation Award!

The Citizen Conservation Award recognizes citizens who promote diamondback terrapin conservation in tangible ways, either through volunteer work with non-profit organizations or as an independent advocate for protection of terrapins and their habitats. The award will be granted every three years, concurrent with the triennial symposium. Current members of the DTWG may nominate individuals for the award by submitting a written letter of recommendation. The letter should document the specific activities and accomplishments of the nominee and highlight how the actions of the nominee have resulted in significant advances in diamondback terrapin conservation (i.e. establishment of long-term monitoring programs, enhanced measures to protect terrapins and their habitat, broad scale advances in public education regarding terrapin conservation). Letters of nomination and support may be submitted to DTWG Senior Co-Chair Amanda Williard (williarda@uncw.edu). The DTWG Officers and Regional Representatives will consider nominations for the award and select one based on majority vote. The awardee will receive a certificate acknowledging their contributions to diamondback terrapin conservation.

Terrapin Tale: Bayley's Long Journey Home

Contributed by John Wnek

"Bayley" is a captive, female diamondback terrapin that is housed at the Nature Center at Island Beach State Park, NJ. She is sharing a display with another female terrapin, "Ellie" that cannot be released back to the wild as she has a vision problem. Bayley's story is about her journey from the wild into captivity and trying to get back home. It started with an email on October 14, 2019 by Barbara Brennessel through the Diamondback Terrapin Working Group list serve with a posted PIT tag code of a diamondback terrapin that was housed in Maine and purchased at a reptile expo. Barbara reached out to determine if "this female (terrapin) was tagged in anyone's study?" The PIT tag (492A5C6462) was scanned by Dr. Laura Leighton, veterinarian, who contacted the New England Aquarium that started the correspondence with Barbara to identify any study that may have marked the captive female terrapin. On October 15, 2019 we identified the female terrapin as being originally marked on June 20, 2008 by Claire Sheridan as part of a Barnegat Bay, NJ study under Principal Investigator Harold W. Avery. At the time of her initial capture she was aged at 7 years (using plastron annuli) and weighed 805 grams. Since, she was subsequently recaptured in 2013 by Ben Wurst, Biologist, Conserve Wildlife Foundation of New Jersey, who is coordinating a terrapin population study at Great Bay Boulevard. Since that time, there was nothing known about Bayley until 2019, but she was a victim of the illegal pet trade and possibly used in captive breeding.

Special Agents from US Fish and Wildlife Service Office of Law Enforcement worked with New Jersey Division of Fish and Wildlife Law Enforcement, and the Endangered and Non-Game Species Program to obtain more details on where Bayley may have housed and sold. Prior to 2016, New Jersey had a seasonal harvest on terrapins which was legal the end of November through March each year as long as the terrapins were at least 5" (carapace length) and not taken using dredges, nets, rakes, and other mechanical means; however, legislation was passed that and signed into law by NJ Governor Chris Christie in July 2016, making it illegal to harvest terrapins. There was a specific incident prior to 2016 that moved this law when over 4300 terrapins were harvested and sold to a breeding facility in Maryland over a two year period of time. It was determined that the first year, 3500 terrapins (mostly adult females) were legally captured, but the following year, it was determined that the hundreds of terrapins were taken using illegal dredging practices. The area where this mass harvest took place was 30 minutes

Since the illegal harvest law in 2016, there has been a case where Dave Sommers, Pennsylvania, illegally dug up terrapin eggs and took adult females from Great Bay Boulevard, the same location where "Bayley" was taken ([see article](#)). After an investigation during the summer of 2017 by NJ Division of Wildlife Conservation Officers, in August 2019, Dave Sommers was prosecuted and sentenced to six months in prison, six month probation, and a \$250,000 restitution fine for possessing over 3400 diamondback terrapins (adult females and hatchlings) at his home in Levittown, PA. This activity by Dave Sommers took place over five years. The exact date and year that Bayley was taken is uncertain; however, her captivity led her to Tennessee, Massachusetts and eventually Maine, where she was identified and surrendered.

Thanks to Jordan Gray of the Turtle Survival Alliance, Bayley was transported back to New Jersey where she was received by the Marine Academy of Technology and Environmental Science (MATES) Project Terrapin, NJ. It was determined by wildlife biologists and terrapin experts that she needed to be quarantined and evaluated for health to be considered for release back into the wild. The Nature Center at Island Beach State Park was an ideal location to house Bayley. At IBSP, she was named during a social media campaign to promote awareness of her captive status. *Story continued on the next page.*



Bayley is currently housed at The Nature Center at Island Beach State Park, New Jersey

Terrapin Tale, continued from previous page. New Jersey Division of Fish and Wildlife biologist Brian Zarate, along with Dr. Nicole Lewis, veterinarian, established a protocol for Bayley's potential release, which included a health assessment component. The goal was to assess 30 wild adult terrapins from the Great Bay population, along with Bayley and her tank mate, Ellie. All terrapins were tested for Ranavirus, Herpesvirus, blood parasites, fecal pathogens, blood chemistry and Mycoplasma spp. Both Bayley and Ellie were negative for all tests, and the 30 wild individual test results indicate that the health conditions are conducive for Bayley's release back to the wild. However, it was recommended that Bayley quarantine longer and we develop a release plan to transition her gradually into the system and find a way to monitor her long-term progress. We will keep you updated on Bayley's progress as this case study will serve as a model for introducing adult diamondback terrapins back into the population. It also emphasizes the importance of mark and recapture studies, and how one PIT tag can lead to an illegally captured terrapin getting back home. More information will be made available at projectterrapin.org.

Regional Updates

NORTHEAST REGION

Harbor Dredging: Dredging began in Wellfleet Harbor, Massachusetts this Fall. During this time of year, terrapins enter brumation and some of them burrow under the sediments in the mooring basin and other areas within the 12+ acre dredge zone (Castro-Santos, Bolus and Danylchuk: Assessing Risks from Harbor Dredging to the Northernmost Population of Diamondback Terrapins using Acoustic Telemetry. Estuaries and Coasts, Nov. 2018). With the inevitable "take" of terrapins, which are listed as "threatened" in MA, the Town of Wellfleet set up an account to mitigate for the loss of terrapins. The Town has provided \$16,800 to benefit terrapins by providing land protection, conservation, research, habitat management and/or conservation planning.

Massachusetts Sub-Group Meeting: Priority Populations: A 14-member sub-group of researchers and conservationists from the Northeast Region met virtually on October 16, 2020 to discuss research and conservation initiatives. The meeting was organized by UMASS Ph.D. Candidate Patricia Lavoisier and attended by individuals and organizations from Cape Cod, Buzzards Bay, the Taunton River Watershed and Rhode Island. This first meeting of the group was held as part of a contract between the Massachusetts Division of Fisheries and Wildlife (MassWildlife) Natural Heritage & Endangered Species Program (NHESP) and Massachusetts Audubon Society's Wellfleet Bay Sanctuary to facilitate the effective monitoring of priority populations of Diamondback Terrapins in Massachusetts through the expansion of standardized, repeatable survey protocols to other terrapin populations in Massachusetts, and evaluation of environmental covariates on abundance and distribution of terrapins in Wellfleet Bay.

New York Sub-Group: John Turner (Seatuck Environmental Organization) has organized a sub-group based in Long Island, NY for people interested in terrapin conservation in this area. The sub-group has met in 2018 and 2019. Please contact John Turner (jturner@seatuck.org) if you are interested in joining this sub-group.

Massachusetts Crab Pot Mortality: Recently, terrapin mortality has been documented in pots targeting blue crabs along the south coast of Massachusetts. The sub-group also worked on a draft letter to the MA Division of Marine Fisheries, which addresses potential solutions to terrapin mortality in lobster/edible crab pots.

Next Regional Meeting: Co-representatives, Barbara Brennessel (MA) and Russ Burke (NY) are planning a regional meeting sometime in Spring 2021, resorting to a virtual platform if the meeting cannot be held in person. Date and further information to be announced.

SOUTHEAST REGION

North Carolina Diamondback Terrapin Management Areas: In May 2020 the North Carolina Marine Fisheries Commission established two areas in southeastern North Carolina where the use of agency-approved bycatch reduction devices (BRDs) will be required on all crab pots. The Diamondback Terrapin Management Areas (DTMAs) encompass all waters within the Masonboro Island Estuarine Research Reserve, the Zeke's Island Estuarine Research Reserve, and Bald Head Island State Natural Area. The management measures will go into place during the closed season for crab in winter 2021 to allow crabbers to make the required modifications to their fishing gear so that they are in compliance for the spring 2021 open season. These management measures will enhance efforts to reduce terrapin bycatch in the blue crab fishery with a particular focus on areas where terrapin populations have been documented and well-studied. Learn more about this management measure [HERE](#).

Regional updates continued on the next page.

Regional Updates

MID-ATLANTIC REGION

BRD legislation on hold in Virginia: The Virginia Marine Resources Commission (VMRC) has taken up the issue of terrapin mortality in crab pots, but a regulatory change to require excluder devices on recreational pots would require a change to the legislative Code. Unfortunately all VMRC legislation currently is on hold. We are in a wait and see period affected by COVID impacts.

The crab trap app!: The Virginia Institute of Marine Science continues to lead the way in removal of derelict crab pots from Virginia waters. Over the years they have worked with watermen and women to remove some 40,000 derelict pots. Now, VIMS is encouraging citizens to be involved in the effort with a program to encourage folks to assist with trap removal. Citizens use the “crab trap app” to ID the location and status of the derelict crab pot they find and pull from the water:

https://www.vims.edu/ccrm/research/marine_debris/solutions/removal/app/crabtrap-app-2.pdf

Seagrass habitat for terrapins: The University of Virginia’s Long-Term Ecological Research site on the Eastern Shore of Virginia is home to the largest contiguous seagrass restoration project, now at over 9,000 acres and growing.

<https://news.virginia.edu/content/some-good-news-seagrass-restored-eastern-shore-bays-flourishing>

This original seagrass habitat was wiped out by disease and storms a century ago and is only now returning. Is this new habitat being used by terrapins? Proposals are being developed.

Building the better BRD: Virginia Tech and Hampton University received a small grant (\$10K) for 2021 to involve college and high school students in the design, 3D-printing and testing of novel BRDs for use in commercial-style crab pots.

NOAA Marine Debris Program: This NOAA program is addressing marine debris at the regional level as part of their Marine Debris Strategy for 2021-2025 ([NOAA Marine Debris Link](#)). NOAA has established and continues to develop regional action plans ([see link](#)) in areas that encompass diamondback terrapin habitat. There is a draft Mid-Atlantic Action Plan under review that will address four main goals for 2021-2026: Goal 1- Understand, Prevent, and Mitigate the Impacts of Consumer Debris; Goal 2 - Understand, Prevent, and Mitigate the Impacts of Derelict Fishing Gear; Goal 3 - Understand, Prevent, and Mitigate the Impacts of Microplastics and Microfibers; and Goal 4 - Prevent and Mitigate the Contributions of Abandoned and Derelict Vessels, Shrink Wrap, and Fiberglass Debris (Related-Debris). Under Goal 2, there are a numbers of projects that will be important for the future of terrapin populations, especially those dealing with the impacts of abandoned or lost crab pots.

COVID 19 Impacts: Many of the diamondback terrapin population studies, conservation projects and outreach efforts were limited during the pandemic, but were able to move ahead thanks to invaluable volunteers who followed social distancing protocols. Barnegat Bay, NJ continued under Project Terrapin, The Terrapin Nesting Project, the Mordecai Land Trust and the Conserve Wildlife Foundation of NJ (CWFNJ). Thanks to the many volunteers, student interns, and research assistants, we were able to complete many of the objectives set out. One such project was the installation of a new terrapin nesting area on Great Bay Boulevard (origin of the captive terrapin, Bayley). Under the direction of Ben Wurst, CWFNJ, ninety dump truck loads of sand were used to create this necessary “Turtle Garden” in response to loss of terrapin nesting habitat. We may have been socially distant, but our volunteers, responsibly, made for a successful field season.

FLORIDA REGION

Florida Fish and Wildlife Commission updates: The Florida Fish and Wildlife Commission (FWC) continues to deliberate on the use of bycatch reduction devices (BRDs) to address the issue of terrapin bycatch in blue crab fisheries. Management measures under consideration include requiring 2” x 6” BRDs on crab pots and requiring BRDs in certain areas associated with terrapin presence. More clarity on this issue is expected by the beginning of 2021.

GULF REGION

Terrapin Conservation Action Plan Updates: Workshops for the Gulf of Mexico Alliance Conservation Action Plan have been completed and the Action Plan is in development. More news on the roll-out of the Action Plan will be available in Summer 2021.

General Announcements

It's Time To Renew Your DTWG Membership! Please fill out the Membership Form on Page 8 of this newsletter or renew your membership online at www.dtwg.org (use the Join the Terrapin Working Group tab along the left side of homepage). Thank you for supporting the DTWG!

Are You Interested in Being an At-Large Representative on the DTWG Board of Directors? Revisions to the current DTWG Bylaws were approved by the Officers and Regional Representatives at the September 2020 Quarterly Meeting. The Board of Directors for the DTWG was expanded to include the four elected Officers, one Regional Representative from each of the five regions, and five elected At-Large Representatives. We are currently accepting nominations for At-Large Representatives from the general membership. You may nominate yourself or another current member of the DTWG. Please include a brief paragraph to describe motivation and/or qualifications of the nominee in your nomination. Nominations may be submitted to Co-Chairs Amanda Williard (williarda@uncw.edu) and John Maerz (jcmaerz@uga.edu).

Save the Date! The 9th Symposium on the Ecology, Status, and Conservation of the Diamondback Terrapin will be hosted by John Maerz in Athens, Georgia in 2022. Details regarding the meeting will be shared as the planning proceeds.

Coming Soon! The Diamondback Terrapin Working Group webpage is currently being revised and will be moved to a new platform beginning in January 2021. The website will have several new features, including a Project Database, Updated Bibliography, Educational Resources, news blog, and links to important DTWG documents and funding opportunities. Members will be notified when the new DTWG website goes live.

Recent Publications

Stanford CB, Iverson JB, Rhodin AGJ, van Dijk PP, Mittermeier RA, Kuchling G, Berry KH, Bertolero A, Bjørndal KA, Blanck TEG, Buhlmann KA, Burke RL, Congdon JD, Diagne T, Edwards T, Eisemberg CC, Ennen JR, Forero-Medina G, Frankel M, Fritz U, Gallego-Garcia N, Georges A, Gibbons JW, Gong S, Goode EV, Shi HT, Hoang H, Hofmeyr MD, Horne BD, Hudson R, Juvik JO, Kiester RA, Koval P, Le M, Lindeman PV, Lovich JE, Luisella L, McCormack TEM, Meyer GA, Paez VP, Platt K, Platt SG, Pritchard PCH, Quinn HR, Roosenburg WM, Seminoff JA, Shaffer HB, Spencer R, Van Dyke JU, Vogt RC, Walde AD. 2020. Turtles and tortoises are in trouble. *Current Biology* 30, R721-R735. <https://doi.org/10.1016/j.cub.2020.04.088>

Czaja RA, Scholz AL, Figueras MP, Burke RL. 2020 The role of nest depth and site choice in mitigating the effects of climate change on an oviparous reptile. *Diversity* 2020, 12, 151; doi:10.3390/d12040151

Reisenfeld K, Mcelroy E, Roosenburg W. 2020. Functional ecomorphology in the diamondback terrapin (*Malaclemys terrapin*); the effects of headstarting on morphology and bite force. *Integrative and Comparative Biology* 60: E195 Supplement 1, Meeting Abstract 137-6



DTWG 2021 MEMBERSHIP RENEWAL

Greetings to all supporters of the Diamondback Terrapin Working Group (DTWG)! It is time for your annual membership renewal. Since 2009 all DTWG membership dues have gone to fund research on terrapins. We usually receive proposals requesting over \$20,000, and our grants committee selects the most promising ones for funding. In past years, we have funded projects as diverse as testing BRDs on crab pots, genetic diversity, skeletochronology, mark-recapture and home range studies, to name a few. Obviously, there is a need out there for these funds so please dig down and pay your dues.

We again intend to use all dues collected this year to fund grants, which we will award in spring 2021. We will announce grant proposal requirements and a deadline date for submission by the end of this year. Of course, the first requirement is that the awardees be members of DTWG. We anticipate collecting between \$1000 and \$2000 in dues and all that we collect will go to these awards. Also remember that membership comes with the privilege of using the Bibliography page on the DTWG website.

Please Renew or Join by December 31, 2020

Regular Annual Membership	\$35.00
Student Membership (Must be recommended by a university professor)	\$15.00
Contributing Member	\$60.00
Corporation or Society	\$75.00
Sustaining Member	\$100.00
Lifetime Membership (Names of Lifetime Members will be added to a list on the website)	\$300.00

OPTION 1: Renew/Join online and pay with PayPal (no check necessary)

Visit our website at www.dtwg.org and click the link at the top of the homepage

OPTION 2: Renew/Join by mail and pay with a check payable to DTWG

Please send this form and your dues to: DTWG c/o Sarah Finn, NC Wildlife Resources Commission,
508 Raleigh Avenue, Carolina Beach, NC 28428

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