TCEQ DOCKET NO. 2023-1664-WR

APPLICATION BY THE CITY OF CORPUS CHRISTI FOR WATER RIGHT PERMIT NO. 13675	**§ § § § §**	**BEFORE THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

INGLESIDE ON THE BAY COASTAL WATCH ASSOCIATION'S REPLY TO RESPONSES TO HEARING REQUESTS

TO THE HONORABLE COMMISSIONERS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY:

Ingleside on the Bay Coastal Watch Association ("IOBCWA") hereby submits this Reply to the Responses to Hearing Requests filed by the City of Corpus Christi ("the City" or "Applicant"), the Executive Director ("ED"), and the Office of Public Interest Counsel ("OPIC"). For the reasons described below, IOBCWA urges the Commission to grant its hearing request and refer this matter to the State Office of Administrative Hearings of a contested-case hearing on the merits.

I. Summary

By its initial hearing request, IOBCWA satisfied the associational standing test, 30 Tex. Admin. Code § 55.252(a). IOBCWA identified several members—*e.g.*, Encarnacion Serna and Kelley Burnett[1]—who possess personal justiciable interests that will be impacted by the permit application that is the subject of this proceeding, thus demonstrating that the

[1] Although Ms. Burnett submitted an individual hearing request, she is also a member of IOBCWA. *See* Exhibit A to this Reply (Affidavit of Ms. Burnett, averring that she is a member of IOBCWA).

group includes members who have standing to request a hearing in their own right.[2] *See* Tex. Water Code § 5.115; 30 Tex. Admin. Code §§ 55.252(a)(1), 55.256(a).

In their respective responses, the ED and the City argue that IOBCWA's members cannot demonstrate standing because they do not possess sufficient property interests or other personal justiciable interests.[3] *See Applicant's Responses to Hearing Requests*, pp. 4, 13; *ED's Response to Hearing Requests*, pp. 5, 7. The City further argues that the concerns expressed by IOBCWA's members are concerns that are either (1) common to members of the general public or (2) are not protected by the law under which the City's application will be considered. *Applicant's Responses*, pp. 4, 13.

Both the City's and the ED's arguments are flawed. As described in more detail below, and in the affidavits attached to this Reply, the interests—recreational, property, and economic interests—identified by Mr. Serna and by Ms. Burnett are personal justiciable interests, sufficient for purposes of demonstrating standing under the relevant legal standards. Their personal justiciable interests will be impacted by the proposed water right that is the subject of this proceeding. And their interests are protected by the law that applies to the City's water right permit application.

Accordingly, IOBCWA satisfies the associational standing test, and its hearing request should be granted.

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[2] Neither the ED nor the City has challenged the other two elements under the associational standing test, 30 Tex. Admin. Code § 55.252(a)(2) & (3). Accordingly, this Reply addresses only the first element of the associational standing test—whether IOBCWA includes members who have standing to request a hearing in their own right.

[3] The Office of Public Interest Counsel recognizes that IOBCWA has satisfied the associational standing test. OPIC explains that Mr. Serna and Ms. Burnett both demonstrated that they possess personal justiciable interests that will be impacted by the proposed water right, and that their interests are protected by the law that governs the City's water right permit application. *See OPIC's Response to Requests for Hearing*, pp. 5-9. IOBCWA concurs with the OPIC's assessment.

II. Discussion

A. The "affected person" standard is analogous to the constitutional standing test, and neither requires ownership of an appropriative water right.[4]

Chapter 5 of the Texas Water Code addresses the general standards that apply to hearing requestors seeking to show they are affected persons. Under section 5.115, an affected person is one who has a personal justiciable interest related to a legal right, duty, privilege, power, or economic interest affected by the administrative hearing. Tex. Water Code § 5.115(a). An interest common to members of the general public is not sufficient to confer affected person status. Tex. Water Code § 5.115(a).

The determination of whether someone is an affected person is governed by the same standards that govern Article III standing in federal Court. *City of Waco v. Texas Comm'n on Envtl. Quality*, 346 S.W.3d 781, 801-03 (Tex. App.–Austin 2011), *rev'd on other grounds*, 413 S.W.3d 409 (Tex. 2013).[5] The United States Supreme Court in *Lujan v. Defenders of Wildlife*, 504 U.S. 555 (1992), established that standing involves three elements: (1) an injury in fact, which is a concrete and particularized invasion of a legally protected interest that is actual or imminent, not conjectural or hypothetical; (2) a fairly traceable causal connection between the injury and the conduct complained of; and (3) it must be likely as opposed to speculative that the asserted injury will be redressed by a favorable decision. *Id.* at 561.

[4] *But see Applicant's Responses*, pp. 4, 13.
[5] *See also* Statement of Legal Authority to Regulate Oil and Gas Discharges under the Texas Pollutant Discharge Elimination System Program, Texas Attorney General Ken Paxton, September 18, 2020.

The Supreme Court applied the *Lujan* test to determine standing based on recreational interests, in the case of *Friends of the Earth, Inc. v. Laidlaw Environmental Services, (TOC) Inc.*, 528 U.S. 167 (2000). The case involved a Clean Water Act citizens suit, alleging that Laidlaw was operating its wastewater treatment facility in a manner that violated its NPDES permit. To demonstrate associational standing, Friends of the Earth (one of the organizational plaintiffs in the case) relied on a member who lived a half-mile from Laidlaw's facility and who averred that he occasionally drove over the receiving river, that it looked and smelled polluted, and that he would like to fish, camp, swim, and picnic in the area of the receiving river between 3 to 15 miles downstream from the facility as he had as a teenager, but would not do so out of concern that the water was polluted by Laidlaw's discharges. *Id.* at 181-82.

In concluding that Friends of the Earth had established standing, the Court explained that "plaintiffs adequately allege injury in fact when they aver that they use the affected area and are persons 'for whom the aesthetic and recreational values of the area will be lessened' by the challenged activity." *Id.* at 183 (quoting *Sierra Club v. Morton*, 405 U.S. 727, 735 (1972), and citing *Defenders of Wildlife*, 504 U.S. at 562-563). The *Lujan* Court, itself, had noted: "Of course, the desire to use or observe an animal species, even for purely esthetic purposes, is undeniably a cognizable interest for purpose of standing." *Defenders of Wildlife*, 504 U.S. at 562-563.

Further, the Austin Court of Appeals recognized the validity of recreational interests for purposes of standing, especially when accompanied by a riparian interest, in the case of *Texas Rivers Protection Association v. Texas Natural Resource Conservation*

Commission, 910 S.W.2d 147 (Tex. App.—Austin 1995, writ denied). In that case, the Upper Guadalupe River Authority (the "Authority") sought a permit to divert water from the Guadalupe River at a point near Kerrville. *Id.* at 150. Texas Rivers Protection Association ("TRPA") sought a contested-case hearing with regard to the application. *Id.* To demonstrate standing, TRPA identified member Roy Vance, who owned property fronting the affected area of the river. *Id.* at 151. Another TRPA member, Thomas Goynes, conducted canoeing trips on the affected part of the river and testified that the proposed diversion would affect his business opportunities. *Id.* TRPA was admitted as a party to the contested-case hearing. *Id.* After the agency issued the water right to the Authority, despite TRPA's opposition, TRPA sought judicial review of the permitting decision; the district court affirmed the agency's decision; and TRPA appealed to the court of appeals. *Id.*

On appeal, the Authority challenged TRPA's standing to appeal the agency's decision, arguing that TRPA's members lacked "vested" property rights in the river. But the appellate court rejected this argument. *Id.* at 151-52. The court held that riparian ownership alone sufficiently distinguished the interests of TRPA's members from those of the general public. *Id.*at 151. The Court further noted that "[a]n injury need not affect vested property rights to confer standing; the harm may be economic, recreational or environmental." *Id.* at 151-52.

Applying these standards here, to the hearing requests submitted by IOBCWA and its members, Mr. Serna and Ms. Burnett, it is apparent that IOBCWA's members satisfy the constitutional standing test and the "affected person" standard, in Chapter 5 of the Water Code.

B. Mr. Serna possesses personal justiciable interests that will be impacted by the proposed permit.

Mr. Serna satisfies the requirements of standing based on his recreational and property interests, consistent with the standards set forth in *Lujan*, *Laidlaw*, and *Texas Rivers Protection Association.* As described in his hearing request, IOBCWA's hearing request, and in the attached Affidavit by Mr. Serna (Exhibit B), Mr. Serna owns waterfront property near the proposed intake. Mr. Serna's bayfront property at 105 Lost Creek Drive, Portland, Texas is in close proximity and just west of the City's proposed intake.

Further, he regularly recreates in the area of the proposed intake in Corpus Christi Bay—engaging in activities such as kayaking, fishing, and swimming. For over 20 years, Mr. Serna has regularly engaged in fishing, swimming, and kayaking in the Bay. Mr. Serna fishes near the western edge of the La Quinta Channel, approximately 2 miles from the proposed intakes and kayaks approximately 1 mile west of the proposed intakes. Mr. Serna and his family kayak in this area approximately twice a week from April through October each year.

These interests satisfy the definition of a personal justiciable interest; they are not common to members of the general public. And they satisfy the constitutional standing test.

C. Kelley Burnett possesses personal justiciable interests that will be impacted by the proposed permit.

Sharon Kelley Burnett, a member of IOBCWA, submitted her own individual comments and hearing request, and OPIC accurately recognized her as an affected person due to her repeated recreational connection to the particular areas from where water will

be appropriated. Ms. Burnett also has a property and an economic interest in the area via her ownership of her bottlenose dolphin touring company. *See* Exhibit A.

Ms. Burnett owns channel-front property at 410 N Sandpiper, Ingleside, Texas, 78362. Approximately once per year for the last four years, Ms. Burnett takes a dingy boat in Ingleside Cove and fishes off her dock for redfish, sheepshead, and trout. Ms. Burnett has also taken hundreds of customers on tours by boat to see bottlenose dolphins through her company Dolphin Connection Ingleside, located at 84 Bayshore Drive, Ingleside, Texas 78362, only .15 miles from the La Quinta Channel. Dolphin Connection Ingleside is primarily a dolphin tour operation, but the company also offers fishing charters as well as "ferry" transportation to businesses like Hanson Surveyors for survey teams. The company operates year-round, and its clientele includes local residents and tourists from across the country, as well as international travelers who come as far as the Netherlands to take tours because of its reputation as a 5-star enterprise.

Ms. Burnett's dolphin tour route sometimes includes the southeastern portion of La Quinta Channel, approximately 2 miles from the proposed intake structures. On occasion, Ms. Burnett has clients who work in the industrial areas along the La Quinta Channel and would like to view the industrial areas from the water. On those occasions, they travel into the area within the La Quinta Channel up to Kiewett Corporation.

Ms. Burnett's business depends on the quality of water and the health of the dolphin pods that are year-round residents in La Quinta Ship Channel and Corpus Christi Ship Channel. A reduction in fish population will likely have an impact on dolphin activity in the area, which would impair Ms. Burnett's economic interests, as it will decrease her

customers and thus her revenue. A decrease in the dolphin population would also affect Ms. Burnett's personal aesthetic enjoyment of the area.

These economic impacts should not be disregarded. Economic interests are a valid basis for being found an affected person and judicial standing. 30 Tex. Admin. Code § 55.256(a) ("an affected person is one who has a personal justiciable interest related to a[n] . . . economic interest affected by the application"); *see also Stop the Ordinances Please, v. City of New Braunfels*, 306 S.W.3d 919 (Tex. App.—Austin 2010, no pet.) (tubing outfitters had standing to challenge ordinances that potentially decreased customer base, and potentially impaired usefulness of equipment); *Lake Medina Conserv. Soc'y v. Texas Natural Res. Conserv. Comm'n,* 980 S.W.2d 511, 516 (Tex. App.—Austin 1998, pet. denied) (association comprised of lakeside property owners and waterfront businesses had standing to challenge water rights permit that would cause lake levels to drop); *Texas Rivers Prot. Ass'n v. Texas Natural Res. Conserv. Comm'n,* 910 S.W.2d 147, 151–52 (Tex. App.—Austin 1995, writ denied) (citing harm to canoe trip guides' "business opportunities" as supporting individual guides' standing to challenge issuance of water rights permit that would lower river levels).

Therefore, Ms. Burnett is particularly impacted by the proposed permit in a way distinct from the general public by virtue of her regular use of the waters, facilitated by her ownership of nearby property, and her economic interest in the area. Her concerns as to the potential impact of the proposed water right will be redressed by participation in a contested case hearing on the issuance of the permit.

D. The proposed permit will impact IOBCWA's members' personal justiciable interests.

The City argues that IOBCWA's members have expressed only general concerns, which the City claims are insufficient to confer standing. The argument is flawed. As OPIC explained in its Response, Chapter 11 of the Water Code addresses the very concerns raised by IOBCWA and its members. This is further demonstrated by the Affidavit of Dr. Kristin Nielsen (Exhibit C), and the facts described below.

The proposed permit has the potential to reduce the abundance and variety of fish available to be caught in the waters where Mr. Serna fishes, particularly due to the impacts of entrainment (i.e., when smaller organisms pass through intake screens) of larval fish and shellfish. This process is of particular importance in this instance, as the proposed intake site is proximal to seagrass beds that serve as important reproductive/nursery grounds for many species of shellfish and fish and therefore support an especially high concentration of their eggs and larvae (i.e., ichthyoplankton). Because ichthyoplankton are unable to actively swim, they are pulled into seawater intakes in massive numbers, which effectively leads to mortality for 100% of entrained animals. This subsequently impacts adult fish and shellfish populations via several mechanisms. The most obvious of these is by severely depressing the number of early life stage fish and shellfish that may develop into reproductive age adults that help maintain the population. Although entrainment acts on organisms at a much earlier/sensitive life stage, this process is nevertheless akin to severe overfishing pressure.

Another important impact of removing such large numbers of embryo-larval fish and shellfish relates to their importance as a food source for a wide-ranging number of organisms in the estuary. Many smaller fish and invertebrates rely on the availability of ichthyoplankton as an important food source, while larger predatory fish and waterfowl prey upon the organisms supported by the ichthyoplankton. Thus, there can be a cascade of impacts on the food web when immense numbers of eggs and larvae are suddenly removed from a highly productive ecosystem.

Mr. Serna is particularly impacted by the proposed permit in a way distinct from the general public by virtue of his regular use of the waters from which the diversion is proposed to occur, facilitated by his ownership of nearby property. His concerns as to the potential impact of the proposed discharge will be redressed by his participation in a contested case hearing on the issuance of the permit.

Similarly, Over the years, Ms. Burnett has seen some deterioration of water quality and the ability to view dolphins just below the water's surface, and she is worried that the proposed facility will exacerbate the decline in the water quality of the Bay. The proposed intake also has the potential to impact early stage aquatic organisms in the area. Seagrass beds, such as those near the intake, serve as essential nursery grounds for early life stage aquatic organisms, including many managed and protected fish species. Ultimately, mortality of early stage aquatic organisms can have wide-ranging consequences for the ecosystem structure and adversely affect the presence of much larger animals (e.g., dolphins, sea turtles).

The concerns expressed by both Mr. Serna and Ms. Burnett are supported by Dr. Nielsen's Affidavit, attached as Exhibit C. And their concerns would be addressed via participation in the contested case hearing.

E. IOBCWA has raised issues appropriate for referral.

The timely hearing requests submitted by IOBCWA raise issues appropriate for referral to the State Office of Administrative Hearings (SOAH). These issues include:

(1) Whether the application contains information on the purpose and location of use as required by 30 TAC § 295.5.
(2) Whether the application contains the required information regarding return and surplus flows as required by 30 TAC § 295.8.
(3) Whether the application demonstrates consistency with the State and Regional Water Plan.
(4) Whether the proposed withdrawal is detrimental to the public welfare.
(5) Whether the proposed withdrawal maintains existing uses of the area near the intake, and fails to maintain the ecology and productivity of Corpus Christi Bay near La Quinta Channel.
(6) Whether the proposed withdrawal is consistent with the Coastal Management Program.

Each of these issues raised by IOBCWA during the comment period is relevant and material to the Commission's consideration of the Application and is a disputed issue of fact. Thus, each of these issues is appropriate for referral to SOAH.

III. Prayer

For the reasons stated above, IOBCWA respectfully prays that the Commission grant its hearing request, and refer all issues raised by IOBCWA to the State Office of Administrative Hearings.

Respectfully submitted,

/s/ Eric Allmon
Eric Allmon

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Counsel for Ingleside on the Bay Coastal Watch Association

CERTIFICATE OF SERVICE

I hereby certify that, on March 18, 2024, a true and correct copy of the foregoing Reply to Responses to Hearing Requests was electronically filed with the Chief Clerk of TCEQ, and that copies were served upon the following parties via e-mail.

/s/ Eric Allmon
Eric Allmon

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EXHIBIT A

Affidavit of Kelley Burnett

AFFIDAVIT OF SHARON KELLEY BURNETT

STATE OF TEXAS §
§
COUNTY OF SAN PATRICIO §

BEFORE ME, the undersigned notary public, on this day personally appeared Sharon Kelley Burnett, a person whose identity is known to me. After I administered an oath to her and upon her oath, she stated:

1. My name is Sharon Kelley Burnett. I am over eighteen (18) years of age and of sound mind and am otherwise competent and capable of making this affidavit. The facts testified to in this affidavit are within my personal knowledge and are true and correct.

2. I am a member of Ingleside on the Bay Coastal Watch Association, a Texas nonprofit organization.

3. My address is 410 N Sandpiper, Ingleside, Texas 78362.

4. Approximately once per year last four years, I take our dingy boat in Ingleside Cove and fish off my dock for redfish, sheepshead, and trout. I also enjoy birdwatching with my friends in Corpus Christi and the surrounding areas.

5. I own and operate Dolphin Connection Ingleside, which offers tours by boat in the Ingleside Cove and the Corpus Christi Channel to see bottlenose dolphins in the wild. My business address is 84 Bayshore Drive, Ingleside, Texas 78362, approximately .15 miles east of the La Quinta Channel.

6. My dolphin tour route sometimes includes the southeastern portion of La Quinta Channel, approximately 2 miles from the proposed intake structures proposed in the City of Corpus Christi's Application for Water Right Permit No. 13675. On occasion, I will have a client who works in the industrial areas along the La Quinta Channel and would like to view the industrial areas from the water. On those occasions, we will travel into the area within the La Quinta Channel up to Kiewitt Corporation. Normally, we do not go beyond the southeastern portion of the La Quinta Channel.

7. Dolphin Connection Ingleside is primarily a dolphin tour operation, but we also offer fishing charters as well as "ferry" transportation to businesses like Hanson Surveyors for survey teams. We operate year-round and our clientele includes local residents and tourists from across the country, as well as international travelers who come as far as the Netherlands to take our tours because of our reputation as a 5-star enterprise.

8. I restarted Dolphin Connection when I retired from teaching to live in Ingleside on the Bay in June 2020. I am one of two captains for our tours. We have already taken out hundreds of customers on our tours.

9. My business depends on the quality of water and the health of the dolphin pods that are year-round residents in La Quinta Ship Channel and Corpus Christi Ship Channel.

10. Over the years I have seen some deterioration of water quality and the ability to view dolphins just below the water's surface.

11. I am concerned that the impacts of the proposed diversion upon wildlife in the area will result in fewer dolphins in the areas where I conduct tours. I am concerned that this will decrease my aesthetic enjoyment of the area and will reduce the number of customers which I have for my touring business.

Further the Affiant sayeth not.

Sharon Kelley Burnett, Affiant

SWORN TO AND SUBSCRIBED before me this 18th day of March, 2024.

Notary Public, State of Texas

10-12-24
My Commission Expires:

Miranda Cruz
Notary Public's Printed Name

MIRANDA LEA CRUZ
Notary Public, State of Texas
My Comm. Exp. 10-12-2024
ID No. 13272255-2

EXHIBIT B

Affidavit of Chon Serna

AFFIDAVIT OF ENCARNACION SERNA

STATE OF TEXAS §
§
COUNTY OF SAN PATRICIO §

BEFORE ME, the undersigned notary public, on this day personally appeared Encarnacion Serna, a person whose identity is known to me. After I administered an oath to him and upon his oath, he stated:

1. My name is Encarnacion Serna. I am over eighteen (18) years of age and of sound mind and am otherwise competent and capable of making this affidavit. The facts testified to in this affidavit are within my personal knowledge and are true and correct.

2. I am a member of Ingleside on the Bay Coastal Watch Association, a Texas nonprofit organization.

3. I own property located at 105 Lost Creek Drive, Portland, Texas 78374, approximately 3 miles West of the City's intake. I bought this property with my wife in 1990. Attached as **Exhibit 1** is a copy of a survey of our property.

4. I constructed a boardwalk that extends into Corpus Christi Bay. Attached as **Exhibit 2** are photos of the pier extending from my property into the Bay.

5. I have four children, all of whom were raised in our Portland home, and 10 grandchildren. My family and I frequently use the pier to go swimming, kayaking, and fishing in the Bay. Attached as **Exhibit 3** are several photos of my family engaging in these activities in the Bay and on my property.

6. Between 1980 and 1990, I resided at 1809 Marlin in Portland, and I fished every day in Corpus Christi Bay. In 1990, I purchased our property on Lost Creek. Between 1990 and 2021, I would fish, swim, or kayak every other day to leave time for chores and indoor family time. Starting in 2013 when I retired, I was able to do this year-round.

7. In 2021, my wife and I bought a second property in Three Rivers, Texas. We split our time between our properties in Three Rivers and Portland. When we are in Portland, I continue to fish, swim, or kayak every other day, weather permitting. On average, I spend about two hours kayaking on the Bay each time. I have found that this consistent activity helps with my Bell's Palsy. My wife swims in the Bay every day in the summer.

8. I am a licensed professional engineer, and I have been a licensed engineer for more than 40 years. In my role as an engineer, it was and is necessary for me to read and understand technical materials such as the City of Corpus Christi's Application for Water Right No. 13675 and vicinity maps.

9. I fish near the western edge of the La Quinta Channel, approximately 2 miles from the proposed intakes and kayak approximately 1 mile west of the proposed intakes. Attached as **Exhibit 4** is a map on which I marked with a red dot the area where I fish that is closest to the City of Corpus Christi's proposed intake as identified in the City's Application for Water Right Permit No. 13675.

10. All of my grandchildren enjoy swimming and kayaking in the Bay when they visit and stay with me and my wife. One of my grandsons frequently kayaks with his dog and is sometimes joined my only granddaughter. When my grandchildren finish a kayaking trip, their tradition is to flip the kayak over and swim back to our boardwalk.

11. Upon **Exhibit 4**, attached to this affidavit, I have placed a green dot. My family and I regularly kayak to the area of Corpus Christi Bay indicated by that green dot. Based on that location, and my understanding of the location of the City's proposed intakes, I would estimate that I regularly kayak to an area that is approximately only one mile from the City's proposed intakes. I kayak in this area approximately twice a week from April to October each year.

12. Not only does my family enjoy our boardwalk, but children from the neighborhood also come over to spend time on the boardwalk and in the Bay. I believe our boardwalk has provided an incredible opportunity for community and for us engage with the beauty of the Bay. Our activities on the boardwalk and in the Bay also provide an important personal connection for me to my culture. I cherish the time I get to spend at our Lost Creek property.

13. My family and I fish in the Bay from our boardwalk, and we frequently eat the fish that we catch. During the fall and winter months (October to February), I gig for flounder. This involves waking with waders in water no deeper than 2 feet. I go no more than 0.5 miles—to the other side of North Shore. In February and March, I fish for black drum and trout. Red fish is available year-round.

14. We used to see many large flounder—I estimate 25 to 27 inches long—but we have seen less and less of them in the last five years. We also used to see hammerhead sharks, dolphins, and turtles.

Further the Affiant sayeth not.

Encarnacion Serna

Encarnacion Serna, Affiant

SWORN TO AND SUBSCRIBED before me this 11th day of March, 2024.

Cynthia L Valdes

Notary Public, State of Texas

2/3/2029

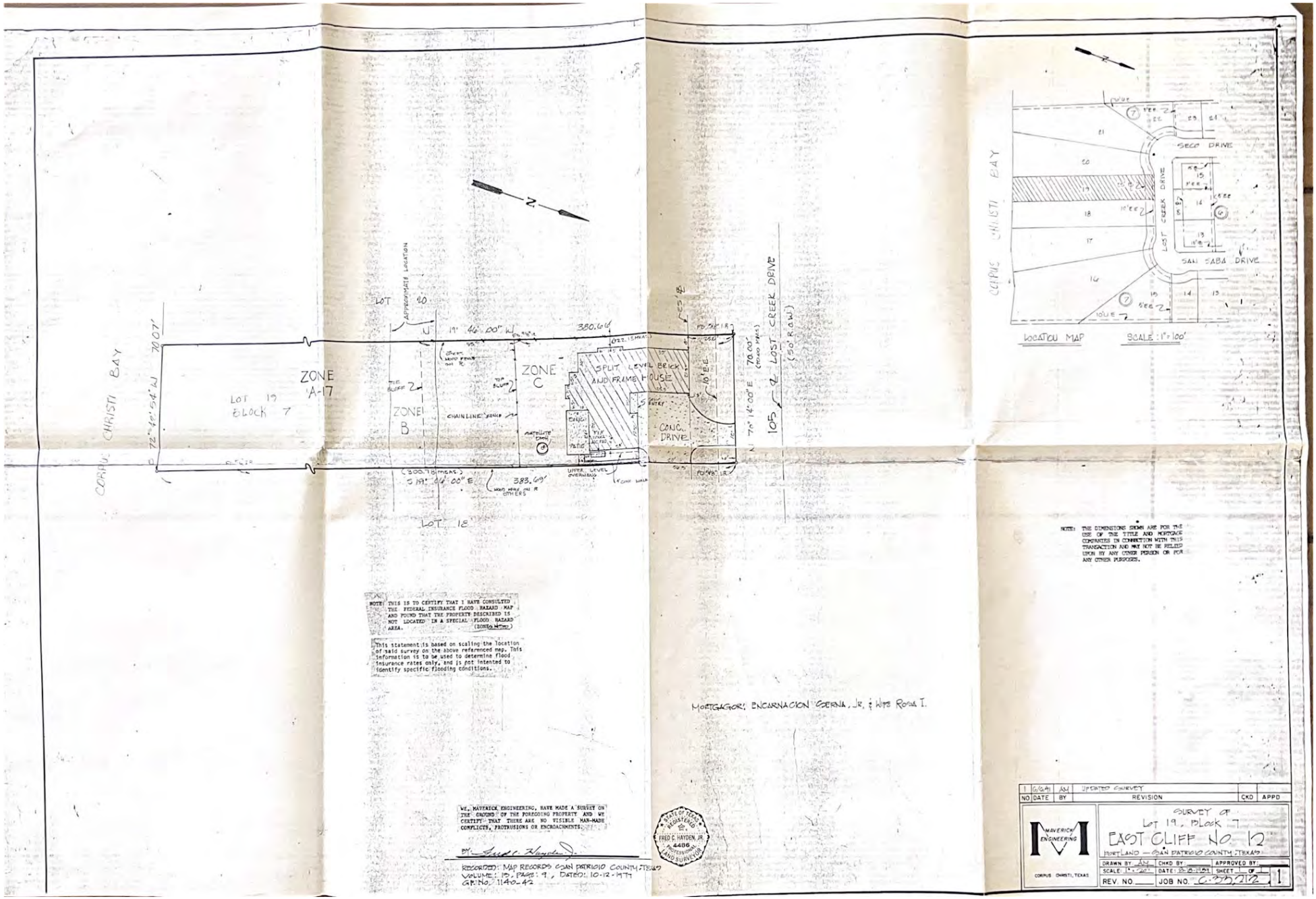
My Commission Expires:

Cynthia L. Valdes

Notary Public's Printed Name

EXHIBIT 1

to Serna Affidavit



NOTE: THIS IS TO CERTIFY THAT I HAVE CONSULTED THE FEDERAL INSURANCE FLOOD HAZARD MAP AND FOUND THAT THE PROPERTY DESCRIBED IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA. (ZONE C Matrix)

This statement is based on scaling the location of said survey on the above referenced map. This information is to be used to determine flood insurance rates only, and is not intented to identify specific flooding conditions.

NOTE: THE DIMENSIONS SHOWN ARE FOR THE USE OF THE TITLE AND MORTGAGE COMPANIES IN CONNECTION WITH THIS TRANSACTION AND MAY NOT BE RELIED UPON BY ANY OTHER PERSON OR FOR ANY OTHER PURPOSES.

MORTGAGOR: ENCARNACION GUERRA, JR. & WIFE ROSA I.

WE, MAVERICK ENGINEERING, HAVE MADE A SURVEY ON THE GROUND OF THE FOREGOING PROPERTY AND WE CERTIFY THAT THERE ARE NO VISIBLE MAN-MADE CONFLICTS, PROTRUSIONS OR ENCROACHMENTS.

BY: Fred C. Hayden

STATE OF TEXAS REGISTERED FRED C. HAYDEN, JR. 4486 PROFESSIONAL LAND SURVEYOR

RECORDED: MAP RECORDS SAN PATRICIO COUNTY, TEXAS
VOLUME: 12, PAGE: 9, DATED: 10-12-1977
GF. NO. 1140-42

NO	DATE	BY	REVISION	CKD	APPD
1	6/6/81	AM	UPDATED SURVEY		

MAVERICK ENGINEERING
CORPUS CHRISTI, TEXAS

SURVEY OF
LOT 19, BLOCK 7
EAST CLIFF NO. 12
MUNICIPALITY OF SAN PATRICIO COUNTY, TEXAS

DRAWN BY: AM	CHKD BY:	APPROVED BY:
SCALE: 1" = 20'	DATE: 25-8-1981	SHEET 1 OF 1
REV. NO.	JOB NO. C-330.212	1

EXHIBIT 2

to Serna Affidavit

Photo 1: Pier extending from Mr. Encarnacion Serna's property into the Corpus Christi Bay.

Photo 2: Pier extending from Mr. Encarnacion Serna's property into the Corpus Christi Bay.

Photo 3: End of the pier extending from Mr. Encarnacion Serna's property into the Corpus Christi Bay.

Photo 4: End of the pier extending from Mr. Encarnacion Serna's property into the Corpus Christi Bay.

EXHIBIT 3

to Serna Affidavit

Photo 1: Mr. Serna's family members recreating on his property and in the Corpus Christi Bay.

Photo 2: Mr. Serna's family member kayaking and fishing in the Corpus Christi Bay.

Photo 3: Mr. Serna's family member with fish caught offshore from Mr. Serna's property.

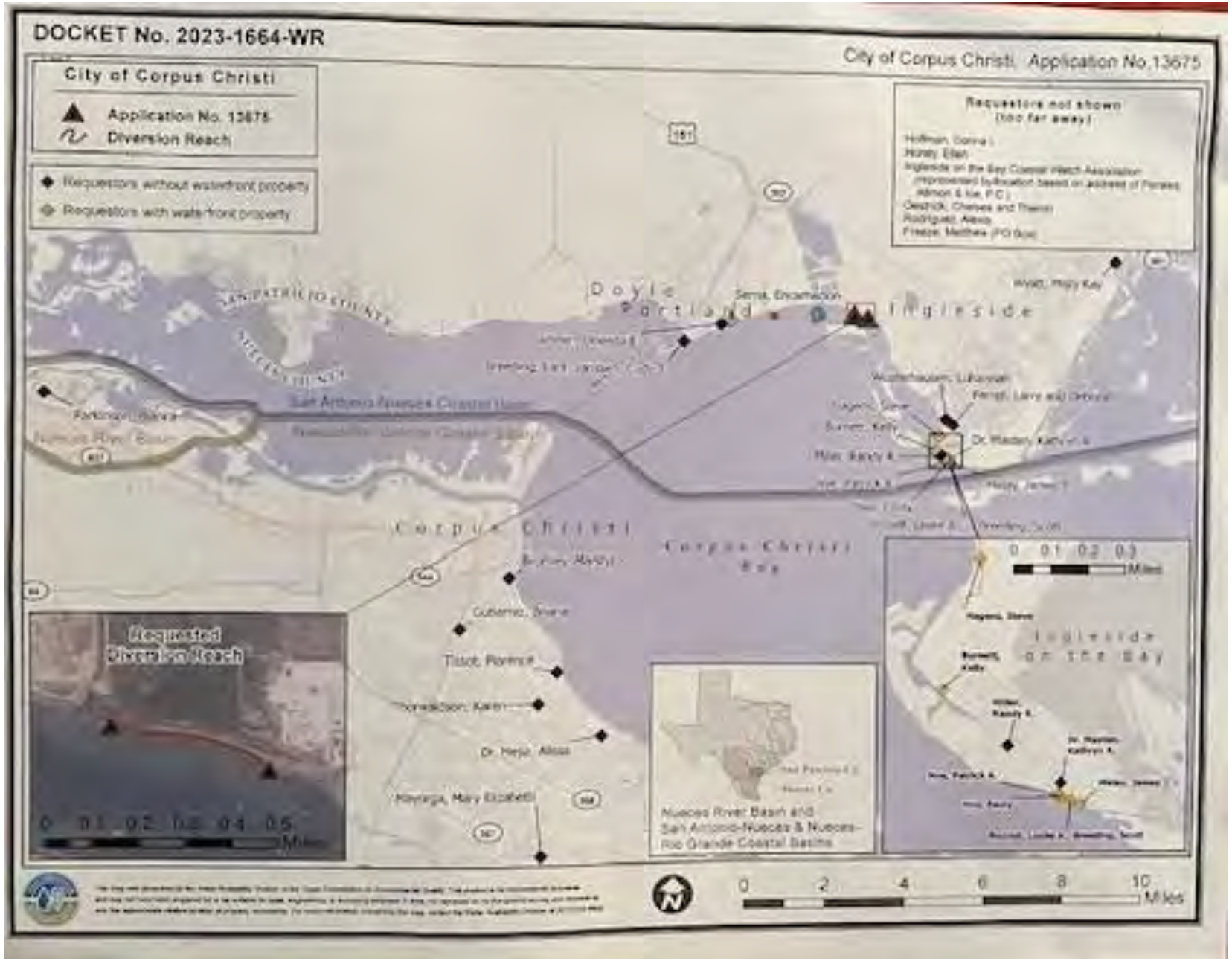
Photo 4: Mr. Serna's family members recreating on his property and in the Corpus Christi Bay.

Photo 5: Photo taken by Mr. Serna's family member kayaking and birdwatching in the Corpus Christi Bay.

Photo 6: Mr. Serna's family member recreating in the Corpus Christi Bay offshore of his property.

EXHIBIT 4

to Serna Affidavit



The ED's map attached to her Response to Hearing Requests with annotations by Mr. Serna.

EXHIBIT C

Affidavit of Kristin Nielsen

AFFIDAVIT OF DR. KRISTIN NIELSEN ADDISON

STATE OF Texas §
§
COUNTY OF Dallas §

BEFORE ME, the undersigned notary public, on this day, personally appeared Kristin Marie Nielsen Addison, who, being by me duly sworn, testified as follows:

1. My name is Kristin Nielsen Addison. I am over eighteen (18) years of age and of sound mind, have never been convicted of a felony, and am otherwise competent and capable of making this affidavit. The facts testified to in this affidavit are within my personal knowledge and are true and correct.

2. I live at 15345 Beaufort Court, Corpus Christi, Texas 78418.

3. I am currently an Assistant Professor at the University of Texas at Austin Marine Science Institute in Port Aransas, TX, where my lab researches how chemical and physical environmental stressors (separately and in combination with one another) adversely impact the health of aquatic ecosystems. Although my work incorporates levels of biological organization through the whole ecosystem level, I primarily focus on how environmental stressors impact fish development. I also have professional experience in the government and private sectors in ecological and human health risk assessment, as well as environmental public health.

4. I earned a B.A. in Biology from Texas A&M University and a Ph.D. in Biology from the University of North Texas, where I also completed a postdoctoral fellowship in Aquatic Toxicology. My teaching responsibilities at the University of Texas include Marine Environmental Science, as well as a graduate level course in Aquatic Toxicology and Risk Assessment. A copy of my resume is attached as **Exhibit A** to this affidavit. Exhibit A is a true and correct copy of my resume.

5. I am aware of the proposed location of the intake proposed by the City of Corpus Christi (the "City") as proposed in its application for Water Use Permit No. 13675. That location is near the La Quinta Channel within Corpus Christi Bay, depicted in **Exhibit B** to this affidavit.

6. By its application for Permit No. 13675, the City proposes a facility that would have a seawater design intake flow of 166.2 million gallons per day (MGD).

7. The intake design for the proposed facility is proposed to consist of wedgewire screens with wire spacing between 2mm and 3mm, and a through screen velocity of less than 0.5 ft/sec.

8. Seagrass beds, such as those near the intake, serve as essential nursery grounds for early life stage estuarine and estuarine-dependent aquatic organisms, including many managed

and protected fish species and a range of ecologically and economically important shellfish (e.g., crabs, shrimp). Thus, the habitat adjacent to the proposed intake site is expected to have high concentration of eggs and larvae relative to other areas of the bay that do not support seagrasses. This is of considerable importance, as embryo-larval fish and shellfish are too small to be excluded by the screens and are also unable to actively avoid the seawater intake structure, resulting in entrainment of massive numbers of organisms. Because entrainment is assumed to have a mortality rate of 100%, adverse impacts on adult populations of fish and shellfish in the area are an expected outcome, due to a combination of reduced recruitment and food web impacts.

9. Impacts on the composition of the food web, particularly in areas of high biological productivity (e.g., seagrass beds), also has important implications for community structure and biological diversity in the area. Impacts of reduced fish abundance extend to large aquatic mammals (e.g., dolphins) and aquatic-dependent terrestrial organisms, such as waterfowl. As proposed to be designed and operated, the intake of seawater will potentially reduce the abundance and diversity of aquatic life and alter community structure in the area of the intake.

10. The potential economic impact of the City's proposed intake is significant. When the ecosystem is healthy and functions properly, humans reap the benefits through a wide range of ecosystem services, such as water filtration and detoxification, enhanced coastal resiliency, erosion prevention, and maintenance of biogeochemical cycles.

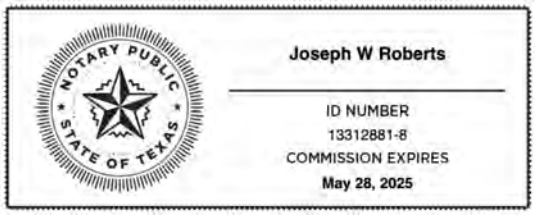
11. The economic benefits of tourism, recreation, and fisheries to the area also cannot be overstated here. Texas has a $3.2 billion recreational fishing industry, two thirds of which comes from red drum (*Sciaenops ocellatus*) and speckled seatrout (*Cynoscion nebulosus*) fisheries, both of which are estuarine-dependent species that thrive in Corpus Christi Bay and utilize seagrass beds as nursery habitat.

FURTHER AFFIANT SAYETH NOT.

Kristin Nielsen, Ph.D.

Kristin Nielsen Addison

SUBSCRIBED AND SWORN TO BEFORE ME this 18th day of March 2024.



Notary Public, State of Texas

Joseph W Roberts

Notary Public's Printed Name

My Commission Expires:

05/28/2025

Electronically signed and notarized online using the Proof platform.

EXHIBIT A

to Nielsen Affidavit

Kristin Nielsen, Ph.D.

Department of Marine Science, University of Texas at Austin
750 Channel View Dr.
Port Aransas, TX 78373
907.538.1720; kristin.nielsen@austin.utexas.edu
http://nielsenlabut.weebly.com/; Twitter: @LabNielsen

EDUCATION

2018 **Postdoctoral Research Fellow** (Aquatic Toxicology)

University of North Texas; Denton, TX

2016 **Doctor of Philosophy** (Biology)

University of North Texas; Denton, TX

Dissertation Title: Maternal transfer of dietary methylmercury and implications for embryotoxicity in Pimephales promelas

2005 **Bachelor of Arts** (Biology, English)

Texas A&M University; College Station, TX

PROFESSIONAL EXPERIENCE

2020 – Present ***Assistant Professor,*** University of Texas at Austin, Department of Marine Science; Port Aransas, Texas

Current Research: Dr. Nielsen is an aquatic toxicologist who uses a systems approach to investigate the developmental and reproductive toxicity of anthropogenic stressors to both freshwater and marine organisms. She is particularly interested in linking contaminant-mediated molecular initiating events to higher level adverse effects in fish models, from both an ecotoxicological and translational perspective. She has specific expertise in the toxicological effects of per- and polyfluoroalkyl substances (PFAS), heavy metals, select pharmaceuticals and their degradation products, as well as the photo-induced toxicity of oil spills to early life stage aquatic organisms. Dr. Nielsen also builds on her experience as a professional ecological and human health risk assessor in a research context, specifically as it pertains to subsistence and sportfishing resources. As part of this work, she develops multiple-lines-of-evidence risk assessment frameworks that consider the role of qualitative determinants of risk (e.g., socio-economic, demographic, traditional, and location-specific environmental factors).

Advising: Kerri Ackerly (Postdoctoral Fellow); Kathleen Roark (PhD Candidate); Tamara Rivera (PhD Student); Mona Birgisson (Undergraduate); Lily DeCamp (Undergraduate); Cassidy Hawk (Undergraduate); Kathryn Appler (PhD Committee Chair); Madeline Schumm (PhD Committee Member); Hannah Rempel (PhD Committee Member); Lu Lin (PhD Committee Member); Xiangtao Jiang (PhD Committee Member); JD Carlton (MS Committee Member)

Courses Taught: Marine Environmental Science (MNS 354Q) & Aquatic Toxicology & Risk Assessment (MNS 193)

2021 – Present ***Owner,*** Nielsen Ecotox Consulting, LLC; Corpus Christi, TX

2019 ***Ecological/Human Health Risk Assessor & Toxicologist,*** Geosyntec Consultants; Anchorage, AK

2018 ***State Toxicologist & Environmental Public Health Program Manager,*** Alaska Division of Public Health; Anchorage, AK

2016 ***Postdoctoral Research Fellow & Adjunct Faculty,*** University of North Texas; Denton, TX

Courses Taught: Fundamentals of Aquatic Toxicology (BIOL 4380)

2008 ***Department Chair,*** Grand Prairie Independent School District; Grand Prairie, TX

2006 ***Science Teacher/Coach,*** Pearsall Independent School District; Pearsall, TX

FUNDING

2024-2027 Matagorda Bay Mitigation Trust (Co-PI) $496,099

Evaluating Ecological and Human Health Risks of PFAS in Matagorda Bay

2023 – 2028 National Oceanic and Atmospheric Administration (Co-PI) $1,908,340

Developing an Ecosystem-based Conservation framework for Oyster Reefs Across Texas Estuaries

2023 – 2026 Matagorda Bay Mitigation Trust (PI) $396,691

Reproductive and developmental toxicity of "Forever Chemicals" to Matagorda Bay's prey fishes

2022 – 2024 National Academies of Sciences, Engineering and Medicine (PI) $76,000

Gulf Research Program 2022 Early-Career Research Fellowship

2022 – 2024 Coastal Bend Bays and Estuaries Program & Aransas County Navigation District (Co-PI) $58,000

Evaluating Ecological & Human Health Risks Related to Potential Contamination of Port Bay

2022 – 2025 Matagorda Bay Mitigation Trust (PI) $399,965; 2022 – 2025

Assessing the threat of tire leachate and urban runoff on Matagorda Bay fish populations

2021 – 2023 Stengl-Weyer Endowment (PI) $87,598

Danger Downstream? Investigating indirect mechanisms of urban runoff toxicity using a whole ecosystem approach

2019 - 2021 Health Canada (Co-PI) $148,000

Chemical Management Plan: Investigating Metformin's Environmental Fate and Effects

2018 – 2019 Centers for Disease Control & Prevention (PI) $404,467

ATSDR Partnership to Promote Local Efforts to Reduce Environmental Exposure

2018 - 2019 Centers for Disease Control & Prevention (PI) $263,278

Childhood Lead Poisoning Prevention

HONORS, MEMBERSHIPS & AWARDS

2022 – Present Affiliated Investigator, Beaufort Lagoon Ecosystems Long Term Ecological Research Program

2022 – 2024 Early Career Fellow, National Academies of Sciences, Engineering and Medicine

2022 – Present Center for Molecular Carcinogenesis & Toxicology, College of Pharmacy, University of Texas

2022 – Present Interdisciplinary Environmental Chemicals Working Group, Center for Health and Environment: Education and Research, University of Texas

2019 – 2022 Affiliate Faculty, Alaska Pacific University

2018 Presidential Citation Award Recipient, SETAC North America

2015 Outstanding Teaching Award, Department of Biological Sciences, University of North Texas

2014 – 2016 Beth Baird Scholarship, University of North Texas

2012 – Present SETAC North America, Member

SERVICE TO THE FIELD

Departmental

2023- Present Faculty Search Committee (three open rank positions)

2023- Present Student Awards & Endowment Committee

2023- Present Seminar Committee

2021 – Present Abell Chair Faculty Recruitment Committee, Marine Science Institute, University of Texas

2021 – 2022 Graduate Record Examination Waiver Committee, Department of Marine Science, University of Texas

2021 – Present Marine Science Institute Director Search Committee, College of Natural Science, University of Texas

2020 – Present Graduate Studies Committee

2020 – Present Analytical Core Committee, Department of Marine Science, University of Texas

2020 – Present Institutional Animal Care and Use Committee, Marine Science Institute, University of Texas

2020 – Present Center for Coastal Ocean Science Design Committee, Marine Science Institute, University of Texas

Scientific Community

Boards & Committees

Editorial Board, Environmental Toxicology & Chemistry (Term: 2023 – 2026)

Editorial Board, Frontiers in Marine Science *(2022 – Present)*

Secretary, South-Central SETAC *(2022 – Present)*

Executive Board, South-Central SETAC *(2021 – Present)*

Development Committee, SETAC North America *(2018-2020)*

Early Career Committee (ECC), SETAC North America *(2018 – 2020)*

ECC Outreach & Media Sub-Committee Chair, SETAC North America *(2018 – 2020)*

Environmental Public Health Program Development Committee, Alaska Pacific University *(2018 – 2019)*

Conference Organization & Leadership

Steering Committee Member; International Conference on Environmental Pollution, Restoration, and Management; Quy Nhon, Vietnam (2023 – 2024)

Session Chair, SETAC Europe 33rd Annual Meeting, Dublin, Ireland *(2023)*

Steering Committee Member; South-Central SETAC Annual Meeting; Denton, TX *(2023)*

Session Chair, American Physiological Society Intersociety Meeting in Comparative Physiology, San Diego, CA *(2022)*

National Academies and Alaska Sea Grant Oil Spill Science and Disaster Preparedness Workshop Steering Committee; Anchorage, AK *(2019)*

SETAC North America Early Career Scientist Planning Committee; Sacramento, CA *(2018)*

Session Chair, SETAC North America 39th Annual Meeting, Sacramento, CA *(2018)*

Session Chair, SETAC North America 36th Annual Meeting, Salt Lake City, UT *(2015)*

Peer Reviewing Activities

Human & Environmental Risk Assessment: An International Journal *(Article Review, 2023 – Present)*

Texas Comprehensive Research Fund *(Proposal Review, 2022)*

NIH/NIEHS P42 Superfund Hazardous Substance Research and Training Program *(Proposal Review, 2021)*

NSF Major Research Instrumentation Program *(Proposal Review, 2021)*

Reviewer for British Journal of Nutrition *(Article Review, 2021 – Present)*

Reviewer for Environmental Science & Technology *(Article Review, 2016 – Present)*

Reviewer for Environmental Science & Technology Letters *(Article Review, 2016 – Present)*

Reviewer for Environmental Toxicology & Chemistry *(Article Review, 2016 – Present)*

Reviewer for ACS Omega *(Article Review, 2017 – Present)*

Reviewer for Ecotoxicology *(Article Review, 2017 – Present)*

Reviewer for Aquatic Toxicology *(Article Review, 2017 – Present)*

Reviewer for Environmental Pollution *(Article Review, 2017 – Present)*

Reviewer for Journal of Hazardous Materials *(Article Review, 2017 – Present)*

JOURNAL ARTICLES *(* née Bridges)*

1. Ussery, E; Blandford, N; Parrott, J; Kidd, K; Palace, V; McMaster, M; Birceanu, O; Wilson, J.; **Nielsen, K** (Accepted) Effects of experimentally added metformin on wild fathead minnows (*Pimephales promelas*) in a boreal lake ecosystem. Science of the Total Environment.
2. Blewett, T; Ackerly, K; Schlenker, L; Martin, S; **Nielsen, K.** (2024) Implications of biotic factors for toxicity testing in laboratory studies. Science of The Total Environment 908, 168220. https://doi.org/10.1016/j.scitotenv.2023.168220.
3. Ackerly, K; Roark, K; **Nielsen, K.** (2023) Response to: Conway et al. (2023), Red Drum Salinity Tolerance: Comments on Ackerly et al. "Short-Term Salinity Stress During Early Development Impacts the Growth and Survival of Red Drum (*Sciaenops ocellatus*)." Estuaries & Coasts: https://doi.org/10.1007/s12237-023-01305-8
4. Ackerly, K; Roark, K; **Nielsen, K.** (2023) Short term salinity stress during early development impacts the growth and survival of red drum (*Sciaenops ocellatus*). Estuaries & Coasts; https://doi.org/10.1007/s12237-022-01124-3
5. **Nielsen, K**; DeCamp, L; Birgisson, M; Palace, V; Kidd, K; Parrott, J; McMaster, M; Ussery, E. (2022) Comparative effects of embryonic metformin exposure on wild, and laboratory-spawned fathead minnow (*Pimephales promelas*) populations. Environmental Science & Technology: 56 (14), 10193-10203; https://doi.org/10.1021/acs.est.2c01079
6. Ussery, E; **Nielsen, K**; Simmons, D; Pandelides, Z; Mansfield, C; Holdway, D. (2021) An 'omics approach to investigate the growth effects of environmentally relevant concentrations of guanylurea exposure on Japanese medaka *(Oryzias latipes)*, Aquatic Toxicology, 232, 105761; https://doi.org/10.1016/j.aquatox.2021.105761
7. **Nielsen, K***; Furin C; Gerlach B. (2020) Subsistence fish consumption in rural Alaska: Using regional monitoring data to evaluate risk and bioavailability of dietary methylmercury. Science of the Total Environment: 736, 139676; https://doi.org/10.1016/j.scitotenv.2020.139676
8. **Nielsen, K**; Alloy MM; Damaré LM; Palmer I; Forth HP; Morris JM; Stoeckel J; Roberts, AP. (2020) Planktonic fiddler crab *(Uca longisignalis)* are susceptible to photo-induced toxicity following developmental exposure to oiled terrestrial habitat. Environmental Science & Technology: 54 (10), 6254-6261; https://doi.org/10.1021/acs.est.0c00215
9. Ussery, E., **Nielsen, K.**, Pandelides, Z., Kirkwood, A.E., Guchardi, J. and Holdway, D. (2019), Developmental and Full-Life Cycle Exposures to Guanylurea and Guanylurea–Metformin Mixtures Results in Adverse Effects on Japanese Medaka (Oryzias latipes). Environ Toxicol Chem, 38: 1023-1028. https://doi.org/10.1002/etc.4403

10. **Nielsen, K***; Curran TE; Magnuson JT; Barker A; Baxter D; Venables BJ. (2019) Alterations to the vision-associated transcriptome of zebrafish *(Danio rerio)* following developmental norethindrone exposure. Environmental Toxicology & Pharmacology: 69, 137-142; https://doi.org/10.1016/j.etap.2019.04.011

11. **Nielsen, K**; Lay CR; Alloy MM; Gielazyn ML; Morris JM; Forth HP; Takeshita R; Travers C; Oris JT; Roberts AP (2018). Estimating incident ultraviolet (UV) radiation exposure in the Northern Gulf of Mexico during the Deepwater Horizon Oil Spill. Environmental Toxicology & Chemistry: 37(6), 1679-1687; https://doi.org/10.1002/etc.4119

12. **Nielsen, K**; Krasnec M; Magnuson JT; Morris JM; Gielazyn ML; Chavez R; Roberts AP. (2018) Influence of UV and PAH exposure duration on survival of red drum *(Sciaenops ocellatus)* larvae. Environmental Toxicology & Chemistry: 37(9), 2372- 2379; https://doi.org/10.1002/etc.4183

13. Damaré LM; **Nielsen, K ***; Forth HP; Lay CR; Morris JM; Stoeckel J; Curran TE; Soulen BK; Alloy MM; Roberts AP. (2018) Photo- induced toxicity in early lifestage fiddler crab *(Uca longisignalis)* following exposure to Deepwater Horizon spill oil. Ecotoxicology: 27(4), 440-447; https://doi.org/10.1007/s10646-018-1908-6

14. **Nielsen, K**., Venables, B. and Roberts, A. (2017) Effects of dietary methylmercury on the dopaminergic system of adult fathead minnows and their offspring. Environmental Toxicology & Chemistry, 36: 1077-1084; https://doi.org/10.1002/etc.3630

15. Alloy MM; Garner TG; **Nielsen, K**; Mansfield CM; Carney M; Forth HP; Krasnec M; Lay CR; Takeshita R; Morris JM; Oris JT; Roberts AP. (2017) Co-exposure to sunlight enhances the toxicity of naturally weathered Deepwater Horizon oil to early lifestage red drum *(Sciaenops ocellatus)* and speckled seatrout *(Cynoscion nebulosus).* Environmental Toxicology & Chemistry: 36(3), 780-785; https://doi.org/10.1002/etc.3640

16. **Nielsen, K**; Soulen B; Overturf C; Drevnick P; Roberts A. (2016) Embryotoxicity of maternally transferred methylmercury to *Pimephales promelas.* Environmental Toxicology & Chemistry: 35(6), 1436-41; https://doi.org/10.1002/etc.3282

17. Barst BD; **Nielsen, K**; Korbas M; Roberts AP; Van Kirk K; McNeel K; Drevnick, PE. (2015) The role of melano-macrophage aggregates in the storage of mercury and other metals: An example from yelloweye rockfish *(Sebastes ruberrimus).* Environmental Toxicology & Chemistry: 34(8), 1918-1925; https://doi.org/10.1002/etc.3009

18. Blandford, N; Palace, V; Rodríguez-Gil, J; Timlick, L; Stanley, M; Frank, R; Campbell, S; Rudy, M; Marshall, S; Wynia, A; Clark, T; Cunningham, J; Alaee, M; Parrott, J; Kidd, K; Stevack, K; Sabourin, L; Renaud, J; Sumarah, M; **Nielsen, K**; McMaster, M; Ussery, E. (In Review) Community-level Responses and Environmental Fate of Metformin in Freshwater In-Lake Mesocosms. Environmental Toxicology & Chemistry.

19. **Nielsen, K**; Schlenk, D; Esbaugh, A; Mondon, J. (In Review) Potential Environmental Impacts of Coastal Desalination Intake Structures: Urgent Data Gaps and Policy Needs. Environmental Science & Technology Letters.

20. Ackerly, K; Roark, K; Lu, K; Esbaugh, A; Lu, Z; **Nielsen, K.** (In Review) Acute Toxicity Testing of 6PPD-quinone on the Estuarine-Dependent Sport Fish, *Sciaenops ocellatus*. Ecotoxicology.

TECHNICAL REPORTS & WHITE PAPERS

1. Lu, K; Lloyd, J; Xue, J; Tunnell, J; **Nielsen, K;** Liu, Z. (2024) Evaluating the chemical levels of soil, groundwater, bay water, and bay sediment in Port Bay region

2. Conder, J; Arblaster, J; **Nielsen, K**.* (2022) AFFF PFAS Terrestrial Ecological Risk Model Tool (SERDP Project ER18-1614), Department of Defense Technical Information Center; https://apps.dtic.mil/sti/citations/AD1160988

3. **Nielsen, K**. Proposed Harbor Island Seawater Reverse Osmosis Desalination Facility (2021) University of Texas at Austin Texas ScholarWorks: 2021 – 03; http://dx.doi.org/10.26153/tsw/12029*
4. Conder, J; Arblaster, J; **Nielsen, K.*** (2021) AFFF PFAS Aquatic Ecological Risk Model Tool (SERDP Project ER18-1614), Department of Defense Technical Information Center; https://apps.dtic.mil/sti/citations/AD1160985
5. **Nielsen, K.*** (2019) Letter Health Consult: PFAS Exposure Assessment, Pioneer Farm and Alaskan Farm, North Pole, Alaska; State of Alaska Department of Health and Social Services, Anchorage, AK *
6. Lay CR; Morris JM; Takeshita R; Forth HP; Travers CL; Roberts AP; Alloy MM; Garner TR; **Nielsen, K.*** (2015) Incident Ultraviolet (UV) Radiation and Extinction Coefficients in the Northern Gulf of Mexico During the Deepwater Horizon Oil Spill. (TOX_TR.06). Boulder, CO. DWH Toxicity NRDA Technical Working Group Report. https://www.doi.gov/deepwaterhorizon/adminrecord

PRESENTATIONS

Conference Presentations († presenting author, * invited platform)

2023	SETAC North America, 44th Annual Meeting (Louisville, KY) Implications of Climate Change for Dietary Mercury Exposure in High Latitude Subsistence Communities †
2023	SETAC Europe, 33rd Annual Meeting (Dublin, Ireland) Implications of Climate Change for Dietary Contaminant Exposure in Alaskan Subsistence Communities †
2022	American Physiological Society (San Diego, CA) Using red drum as an indicator of the combined effects of toxicant exposure and climate change in estuarine systems †*
2022	Center for Molecular Toxicology and Carcinogenesis Annual Symposium (Austin, TX) Developmental effects of understudied PFAS on estuarine-dependent fish †*
2022	International Congress on the Biology of Fish (Montpellier, France) Comparative effects of developmental metformin exposure on embryo-larval fishes †
2021	SETAC North America, 42nd Annual Meeting (Virtual) Metformin exposure impacts development of wild-spawned embryo-larval fish †*
2020	Emerging Contaminants Summit (Westminster, CO) Assessing the Ecological Risks of Per-and Polyfluoroalkyl Substances (PFAS) at Aqueous Film Forming Foam Sites †*
2020	Geosyntec Global PFAS Technical Webinar (Virtual) PFAS Toxicology and Risk Assessment: State of the Science †*
2019	SETAC North America, 40th Annual Meeting (Toronto; ON) Subsistence Fish Consumption in Alaska: Using Regional Monitoring Data to Evaluate Risk and Bioavailability of Dietary Methylmercury †*
2018	SETAC North America, 39th Annual Meeting (Sacramento, CA) Alterations to the intestinal microbiome and metabolome of *Pimephales promelas* and *Mus musculus* following exposure to dietary methylmercury †*
2018	SETAC Europe, 28th Annual Meeting (Rome, Italy) Photoperiod, exposure duration, and latent mortality: Photo-induced toxicity effects in aquatic organisms †
2018	SETAC Europe, 28th Annual Meeting (Rome, Italy) Alterations to the intestinal microbiome and metabolome of *Pimephales promelas* and *Mus musculus* following exposure to dietary MeHg †
2018	Gulf of Mexico Oil Spill and Ecosystem Science Conference (New Orleans, LA) Photoperiod, exposure duration, and latent mortality: Photo-induced toxicity effects in aquatic organisms †

2017 SETAC North America 38th Annual Meeting (Minneapolis, MN) Photoperiod, exposure duration, and latent mortality: Photo-induced toxicity effects in aquatic organisms †

2017 International Conference on Environmental Pollution, Restoration, and Management (Quy Nhon, Vietnam) The photo-induced toxicity of Australian northwest shelf crude oil to yellowtail kingfish (*Seriola lalandi*) and black bream (*Acanthopagrus butcheri*) †

2017 International Conference on Environmental Pollution, Restoration, and Management (Quy Nhon, Vietnam) Effects of dietary methylmercury on the dopaminergic system in adult fathead minnows and their offspring †

2016 SETAC North America 37th Annual Meeting (Orlando, FL) Effects of dietary methylmercury on the dopaminergic system in adult fathead minnows and their offspring †

2015 SETAC North America 36th Annual Meeting (Salt Lake City, UT) Embryo-toxicity of maternally transferred methylmercury to fathead minnows (*Pimephales promelas*) †

2014 SETAC South Central Regional Meeting (San Marcos, TX) Effects of maternally derived methylmercury on fathead minnow (*Pimephales promelas*) reproductive metrics and embryonic development †

2013 SETAC North America 34th Annual Meeting (Nashville, TN) Effects of maternally derived methylmercury on fathead minnow (*Pimephales promelas*) reproductive metrics and embryonic development †

Invited Institutional Seminars

2023 University of North Texas, Department of Biological Sciences (Denton, TX) High Stakes Risk Assessments in a Changing World: Approaches to Reduce Uncertainty in Ecotoxicology †

2022 Baylor University, Department of Environmental Science (Waco, TX) Comparative effects of metformin exposure on laboratory and wild spawned fishes †

2022 University of Sydney, ARC Centre in Data Analytics for Resources and Environments (Sydney, Australia) Potential ecological and human health risks of PFAS contamination in Australia †

2022 University of Alaska Fairbanks, Water and Environmental Research Center (Fairbanks, AK) Potential ecological and human health risks of PFAS contamination in Alaska †

2022 University of Texas at Austin, College of Pharmacy (Austin, TX) Comparative effects of developmental metformin exposure on wild and laboratory-cultured fish populations †

2020 Alaska Pacific University, Environmental Public Health Program (Anchorage, AK) The Role of Toxicology and Risk Assessment in Environmental Public Health Practice †

2020 University of Georgia, College of Forestry (Athens, GA) Ecotoxicological Effects of Developmental Exposure to Ubiquitous Aquatic Contaminants Across Levels of Biological Organization †

2020 University of North Carolina at Wilmington, Center for Marine Science (Wilmington, NC) Ecotoxicological Effects of Developmental Exposure to Ubiquitous Aquatic Contaminants Across Levels of Biological Organization †

2019 Alaska Pacific University, Environmental Public Health Program (Anchorage, AK) Toxicology and Risk Assessment: Alaska Edition †

2019 University of Alaska Southeast, Department of Biology and Marine Biology (Juneau, AK) Photo-induced Toxicity of Oil Spills to Early Life Stage Marine Biota †

2019 Alaska Pacific University, Environmental Health Program (Anchorage, AK) Risk Assessment and Communication in Environmental Justice Communities in Rural Alaska †

2017 Marshall University, Department of Biological Sciences (Huntington, WV). Effects of maternally transferred methylmercury on development of early life stage fish †

Public Seminars and Select Media Contributions

2023 Marine Science Advisory Council Meeting (Port Aransas, TX) Vulnerable estuaries: High stakes risk assessments in a changing world †

2023 UTMSI Public Lecture Series (Port Aransas, TX) Unintended consequences of diabetes medications: how fish are impacted by metformin †

2023 The Wall Street Journal (Print) They Bought $35 Period Underwear From Thinx. Now They're Uneasy

2022 Kiii Channel 3 News (TV) Area researchers conduct study to see if chemicals from tires are polluting Coastal Bend waters

2021 KRIS6 News (TV) "Port Aransas Conservancy fighting to block Port of Corpus Christi desalination plant

2021 UTMSI Science Festival Public Lecture Series (Virtual) Examining Risks in Perspective: Subsistence Fishing †

2020 Geosyntec PFAS Technical On-Demand Webinars (2020; Webinar) PFAS Toxicology and Risk Assessment: State of the Science †

2020 Geosyntec Instructional Webinar (Webinar) Assessing the Ecological Risks of PFAS at Aqueous Film Forming Foam Sites †

2019 Alaska Tribal Consortium on Environmental Management (Anchorage, AK) An Overview of PFAS Concerns for Communities in Rural Alaska †

2019 NPR Alaska Public Media: Talk of Alaska (Radio) PFAS contamination in Alaska

2019 Alaska Public Media: Alaska Insight (TV) How Dangerous are PFAS Chemicals and What's Being Done to Clean Them Up?

2019 Alaska Department of Health and Social Services, Section of Public Health Nursing (Webinar) PFAS & Public Health for Nurses †

2019 Dillingham Public Meeting (Dillingham, AK) Public Health Concerns related to PFAS Exposures †

2019 Utqiagvik Public Meeting (Utquiagvik, AK) Public Health Concerns related to PFAS Exposures †

2018 Gustavus Public Meeting (Gustavus, AK) Public Health Concerns related to PFAS Exposures †

LEGAL PROCEEDINGS

2021 Expert Witness on behalf of the Port Aransas Conservancy. SOAH DOCKET NO. 582-20-1895.IWD: Hearing on the merits of TPDES PERMIT NO. WQ0005253000.

2023 Expert Witness on behalf of the Ingleside on the Bay Coastal Watch. SOAH DOCKET NO. 582-23-01502: Hearing on the merits of WRPERM 13630.

EXHIBIT B

to Nielsen Affidavit

DOCKET No. 2023-1664-WR

City of Corpus Christi, Application No.13675