CITY OF DELRAY BEACH
100 NW 1st AVENUE, DELRAY BEACH, FL 33444

AGREEMENT FOR PROFESSIONAL SERVICES

RFQ 2017-048 (918-42, 918-89, 906-56)

PINNACLE ECOLOGICAL, INC.

ORIGINAL

AGREEMENT
FOR
PROFESSIONAL SERVICES (CCNA)

AGREEMENT NO. RFQ 2017-048 (918-42, 918-89, 906-56)

THIS AGREEMENT is made and entered into this 31st day of August, 2017 (the "effective date"), by and between the **City of Delray Beach,** a Florida municipal corporation (hereinafter referred to as "City"), whose address is 100 NW 1st Avenue, Delray Beach, Florida, 33444, and **Pinnacle Ecological, Inc.** a Florida corporation (hereinafter referred to as "Consultant"), whose principal address is 1314 Neptune Road, Suite 5, Boynton Beach, Florida 33426.

WHEREAS, the City desires to retain the services of the Consultant to provide certain Professional Services in accordance with the City's Request for Qualifications RFQ 2017-048, Continuing Engineering, Surveying, and Landscaping Architectural Consulting Services (918-42, 918-89, 906-56), and the Consultant's response thereto, which are attached hereto and incorporated herein as Exhibit "A".

NOW, THEREFORE, in consideration of the mutual covenants and promises hereafter set forth, the Consultant and the City agree as follows:

ARTICLE 1. INCORPORATION OF REQUEST FOR QUALIFICATIONS

The terms and conditions of this Agreement shall include and incorporate the terms, conditions, and scope of services set forth in the City's Request for Qualifications, RFQ 2017-048, and the Consultant's response to the Request for Qualifications, including all addenda and documentation required thereunder.

ARTICLE 2. SCOPE OF SERVICES

The Consultant shall provide Professional Services to the City, under the following categories of work as defined in the Request for Qualifications:

a. Category(s)

i. Engineering Services
ii. Surveying/Mapping Services
iii. Landscape Architectural Services

The Consultant shall provide the services on an as-needed and project-by-project basis, based on work requests from City departments through the issuance of Service Authorizations.

ARTICLE 3. COMPENSATION

The City shall pay the Consultant for performing the Services based on the Prices and Rates shown in Exhibit "B", which is attached hereto and incorporated herein.

ARTICLE 4. TERM

The term of this Agreement shall be from the effective date until August 30, 2022, unless terminated beforehand as provided for in Article 5. Nothing contained in the Request for Qualifications or this Agreement shall be construed by the Consultant as a guarantee of work from the City. The City reserves the right to extend the Agreement for one, two-year term, providing all terms conditions and specifications remain the same, both parties agree to the extension, and such extension is approved by the City.

At the City's request, the Consultant shall continue services beyond the final expiration date. This extension period shall not extend for more than one year beyond the final expiration date of the Agreement. The Consultant shall be compensated at the rate in effect when this extension period is invoked by the City.

ARTICLE 5. TERMINATION

a. This Agreement may be terminated by the City, with or without cause, upon providing written notice to the Consultant. This Agreement may be terminated by the Consultant upon thirty (30) days' prior written notice to the City. Upon any such termination, the Consultant waives any claims for damages from such termination, including, but not limited to, loss of anticipated profits. Unless the Consultant is in breach of this Agreement, the City shall pay the Consultant for services rendered through the date of termination in accordance with the terms of this Agreement.

b. The continuation of this Agreement beyond the end of any fiscal year shall be subject to both the appropriation and the availability of funds in accordance with Florida law.

ARTICLE 6. LAW, JURISDICTION, VENUE, WAIVER OF JURY TRIAL

This Agreement shall be interpreted and construed in accordance with and governed by the laws of the state of Florida. All Parties agree and accept that jurisdiction of any controversies or legal problems arising out of this Agreement, and any action involving the enforcement or interpretation of any rights hereunder, shall be exclusively in the state courts of the Fifteenth Judicial Circuit in Palm Beach County, Florida, and venue for litigation arising out of this Agreement shall be exclusively in such state courts, forsaking any other jurisdiction which either party may claim by virtue of its

residency or other jurisdictional device. **BY ENTERING INTO THIS AGREEMENT, SECOND PARTY AND CITY HEREBY EXPRESSLY WAIVE ANY RIGHTS EITHER PARTY MAY HAVE TO A TRIAL BY JURY OF ANY CIVIL LITIGATION RELATED TO THIS AGREEMENT. IF A PARTY FAILS TO WITHDRAW A REQUEST FOR A JURY TRIAL IN A LAWSUIT ARISING OUT OF THIS AGREEMENT AFTER WRITTEN NOTICE BY THE OTHER PARTY OF VIOLATION OF THIS SECTION, THE PARTY MAKING THE REQUEST FOR JURY TRIAL SHALL BE LIABLE FOR THE REASONABLE ATTORNEYS' FEES AND COSTS OF THE OTHER PARTY IN CONTESTING THE REQUEST FOR JURY TRIAL, AND SUCH AMOUNTS SHALL BE AWARDED BY THE COURT IN ADJUDICATING THE MOTION.**

ARTICLE 7. ATTORNEY'S FEES

Any costs or expense (including reasonable attorney's fees) associated with the enforcement of the terms and for conditions of this Agreement shall be borne by the respective Parties, however, this clause pertains only to the Parties to this Agreement.

ARTICLE 8. MISCELLANEOUS PROVISIONS

a. Notice Format. All notices or other written communications required, contemplated, or permitted under this Agreement shall be in writing and shall sent by certified United States Mail, postage prepaid, return receipt requested, or sent by commercial express carrier with acknowledgement of delivery, or by hand delivery with a request for a written receipt of acknowledgment of delivery, addressed to the party for whom it is intended at the place last specified. The place for giving notice shall remain the same as set forth herein until changed in writing in the manner provided in this section. For the present, the Parties designate the following:

As to the City:

City of Delray Beach
100 NW 1st Avenue
Delray Beach, FL 33444
Attn: City Manager

With a copy to:

City of Delray Beach
200 NW 1st Avenue
Delray Beach, Florida 33444
Attn: City Attorney

As to the Consultant:

Pinnacle Ecological, Inc.
1314 Neptune Road, Suite 5
Boynton Beach, Florida 33426
Attn: Paul Fitzgerald, President / CEO

b. Headings. The headings contained in this Agreement are for convenience of reference only and shall not limit or otherwise affect in any way the meaning or interpretation of this Agreement.

c. The documents listed below are a part of this Agreement and are hereby incorporated by reference. In the event of inconsistency between the documents, unless otherwise provided herein, the terms of the following documents will govern in the following order of precedence:

i. Terms and conditions as contained in this Agreement.

ii. Terms and conditions of RFQ 2017-048.

iii. Consultant's response to RFQ 2017-048 and any subsequent information submitted by Consultant during the evaluation and negotiation process.

(The remainder of this page intentionally left blank)

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date hereinabove first written.

CITY OF DELRAY BEACH, FLORIDA

By: _____
Cary D. Glickstein, Mayor

ATTEST:

By: _____
Katerri Johnson, City Clerk

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

By: _____
R. Max Lohman, City Attorney

CONSULTANT

By: _____

Title: President

WITNESSES:

By: Randi Shiplett

Print Name: Randi Shiplett

By: Francesca Fourney

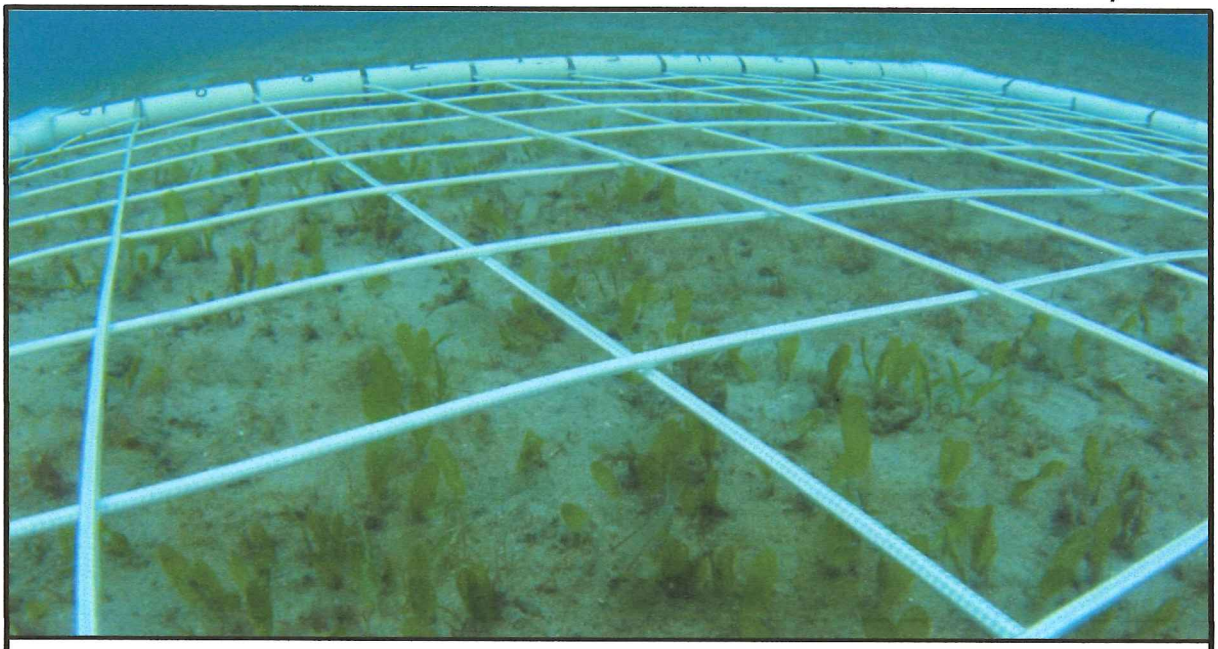
Print Name: Francesca Fourney

EXHIBIT A

RFQ No. 2017-048
CONTINUING ENGINEERING, SURVEYING, AND ARCHITECTURAL CONSULTING SERVICES (918-42, 918-89, 918-56)
CITY OF DELRAY BEACH

PROPOSAL

30 May 2017



Prepared for:

Jose Hildago
Purchasing Agent
City of Delray Beach
100 NW 1st Avenue
Delray Beach, Florida 33444 USA
P: 561-253-7129

Prepared by:

Pinnacle Ecological, Inc.
1314 Neptune Drive, Suite 5
Boynton Beach, Florida 33426 USA
P: 561-699-2609

CHAPTER 1

LETTER OF INTENT:

Pinnacle Ecological, Inc., (Pinnacle) is pleased to submit this proposal in response to the City of Delray Beach RFQ-2017-048 for *Continuing Engineering, Surveying, and Landscaping Architectural Consulting Services (918-42, 918-89, 906-56)*. Pinnacle respectfully requests consideration for the Environmental and Natural Resources discipline of the RFQ. Pinnacle is an environmental science consulting company specializing in the study of marine, estuarine, and coastal ecosystems with an office/laboratory headquartered in Boynton Beach, Florida. Pinnacle is a small business enterprise dedicated to providing expert scientific ecological field services and peer reviewable deliverables and scientific publications. Pinnacle's managing director, Paul Fitzgerald, has over 27 years of experience conducting and managing ecological surveys and monitoring studies associated with permitting and permit compliance. Pinnacle specializes in multidisciplinary projects assessing marine and aquatic conditions and evaluating potential environmental impacts, particularly of coastal and marine development. A wide variety of desktop and field survey services are offered to support clients working in marine, estuarine, wetlands, freshwater, and coastal upland habitats throughout the United States, Caribbean and other international regions. Our team can provide full service environmental permitting from project concept to completion. Additionally, we provide reasonable, cost effective solutions for avoidance and/or minimizing irreversible environmental impacts that may affect water quality, fishing, tourism and resource health. Pinnacle's environmental emergency response service provides rapid deployment of professional scientific teams to remote regions of the globe where they can assess environmental conditions and often initiate mitigation measures to limit ecological impacts. Pinnacle is recognized throughout the industry as experts in the field of marine environmental science and for streamlining the environmental process from concept through completion to avoid potential impacts and maintain project schedules.

Pinnacle's concentration is resource assessment and environmental monitoring, biological habitat characterization and GIS mapping, marine habitat restoration and mitigation implementation, planning and implementation of complex monitoring programs, underwater video and photographic data collection and documentation services, water quality and sediment sampling and monitoring, field instrument deployment and recovery, and scientific dive safety management. The team of marine scientists and technicians at Pinnacle has extensive experience and expertise conducting environmental field studies associated with beach nourishment, dredging, seawall construction, and environmental baseline surveys for coastal development. Pinnacle's team has extensive experience conducting field studies along the coastal habitats of south Florida. Pinnacle is knowledgeable of domestic permitting requirements, designs scientifically sound environmental programs, conducts comprehensive field investigations and rigorous data analyses according to strict quality assurance/quality control requirements, develops and negotiates realistic measures to mitigate potential impacts, and prepares multidisciplinary reports in a time efficient and cost effective manner.

Pinnacle is recognized by the National Oceanic and Atmospheric Administration (NOAA) and the Florida Keys National Marine Sanctuary (FKNMS) as leaders in coral reef studies including coral health and damage assessment, reef stabilization, rehabilitation and restoration, and coral relocation and transplantation. Pinnacle is also recognized by Florida Fish and Wildlife Conservation Commission (FWC) to provide manatee and sea turtle observer services. Particular biological emphasis has been placed on endangered and threatened species, along with species of commercial and recreational importance. Pinnacle has conducted surveys of other threatened and endangered species including Johnson's seagrass (*Halophila johnsonii*) and acroporid corals throughout south Florida.

Professional and educational backgrounds of Pinnacle scientists include wetland and aquatic biology, marine biology, environmental science, botany, zoology, ichthyology, biological oceanography, and marine environmental science. Pinnacle scientists are extensively familiar with south Florida's flora and fauna and have worked on many projects throughout the state. Pinnacle scientists continuously demonstrate the ability to deliver thorough and accurate scientific data and peer reviewable publications.

Pinnacle's fundamental goal is to provide the City of Delray Beach with a level of service and scientific integrity that will result in client satisfaction through project excellence. Pinnacle will provide all labor, materials, equipment, supplies, and travel to provide Professional Services for the Environmental and Natural Resources sub-discipline to the City of Delray Beach. We are committed to planning and accomplishing work in a timely fashion and in strict adherence to project goals and deliverables schedules.

Form A - Proposal Submittal Signature Page

By signing this Proposal, the Proposer certifies that it satisfies all legal requirements as an entity to do business with the City, including all Conflict of Interest and Code of Ethics provisions.

Firm Name: Pinnacle Ecological, Inc.

Street Address: 1314 Neptune Drive, Suite 5, Boynton Beach, Florida 33426

Mailing Address (if different from Street Address):

Telephone Number(s): 561-699-2609

Fax Number(s): 561-699-2609

Email Address: science@pinnacleecological.com

Federal Identification Number: 47-5012926

Acknowledged by:

Pinnacle Ecological, Inc.

Firm Name

Paul Fitzgerald

Digitally signed by Paul Fitzgerald
DN: cn=Paul Fitzgerald, o=Pinnacle Ecological, Inc., ou, email=pfitzgerald@pinnacleecological.com, c=US
Date: 2017.05.29 17:42:42 -04'00'

29 May 2017

Signature

Date

Paul Fitzgerald, President/CEO

Printed Name and Title

By signing this document, the Proposer agrees to all terms and conditions of this RFQ which includes the Sample Agreement.

THE EXECUTION OF THIS FORM CONSTITUTES THE UNEQUIVOCAL OFFER OF PROPOSER TO BE BOUND BY THE TERMS OF ITS PROPOSAL. FAILURE TO SIGN THIS SOLICITATION WHERE INDICATED ABOVE BY AN AUTHORIZED REPRESENTATIVE SHALL RENDER THE PROPOSAL NON-RESPONSIVE. THE CITY MAY, HOWEVER, IN ITS SOLE DISCRETION, ACCEPT ANY PROPOSAL THAT INCLUDES AN EXECUTED [illegible] MS OF ITS

(Remainder of page intentionally left blank)

Form A - Signature Authority

Indicate below Proposer's type of organization and provide the required documentation as applicable to demonstrate that the executor of Proposer's Proposal is duly authorized to execute on behalf of, and as the official act of, Proposer.

Select	Type of Organization	Officer Who Signed Proposal Submittal Signature Page	Required Authorizing Documentation
☒	Corporation	President, Vice President, or Chief Executive Officer	None
☐	Corporation	Director, Manager, or other title	Corporate resolution
☐	Limited Liability Company (LLC) – Member-Managed	Member	Articles of Organization or Operating Agreement
☐	Limited Liability Company (LLC) – Manager-Managed	Manager	Articles of Organization or Operating Agreement
☐	Limited Partnership	General Partner	Document demonstrating the legal authority to bind the Limited Partnership
☐	Partnership	Partner	None
		CEO, Director, Manager or other title	Authorizing documentation
☐	Individual	Individual	None

☒ **Documentation is not required.**

☐ **The required authorizing documentation is included with Proposal.**

CHAPTER 2

STATEMENT OF ORGANIZATION:

A. Legal Contracting Name including any dba:
Pinnacle Ecological, Inc.

B. State of organization or incorporation:
Florida (Document Number: P15000072856)

C. Ownership structure of Proposer's company:
S Corporation

D. W-9 provided on page 7.

E. Contact Information for Proposer's Corporate headquarters.
Address: 1314 Neptune Drive, Suite 5
City, State, Zip: Boynton Beach, Florida, 33426
Phone: 561-699-2609

F. Contact Information for Proposer's Local office:
Same as above.

G. Contact Information for Proposer's primary representative during this RFQ process:
Name: Paul Fitzgerald
Phone: 561-699-2609
E-mail: pfitzgerald@pinnacleecological.com
Mailing Address: 1314 Neptune Drive, Suite 5
City, State, Zip: Boynton Beach, Florida, 33426

H. Contact Information for Proposer's secondary representative during this RFQ process.
Name: Randi Shiplett
Phone: 561-699-2609
E-mail: rshiplett@pinnacleecological.com
Mailing Address: 1314 Neptune Drive, Suite 5
City, State, Zip: Boynton Beach, Florida, 33426

I. List of officers, owners and/or partners, or managers of the firm. Include names, business addresses, and phone numbers.

President - Name: Paul Fitzgerald
Phone: 561-699-2609
E-mail: pfitzgerald@pinnacleecological.com
Mailing Address: 1314 Neptune Drive, Suite 5
City, State, Zip: Boynton Beach, Florida, 33426

J. Briefly summarize any current or pending litigation in which Proposer is a part to.
Not applicable (Pinnacle is not associated with any past or present litigation.)

K. Provide details of any ownership changes to Proposer's organization in the past two years or changes anticipated within six months of the Due Date and Time (e.g., mergers, acquisitions, changes in executive leadership).

In 2008, Paul Fitzgerald started Pinnacle Group International, LLC. (Document Number L08000017723) as a sole proprietor located at 2219 Seacrest Boulevard, Delray Beach, Florida 33444. In September 2014, Mr. Fitzgerald met with the Small Business Development Center (SBDC) during a small business seminar sponsored by Palm Beach County Office of Small Business Administration (OSBA). With guidance from SBDC and OSBA, Mr. Fitzgerald initiated the application process to establish his environmental field services business as an S Corporation on 29 January 2015. During the application process, it was discovered that according to State records (SunBiz.org) another business was already using the name Pinnacle Group International, Inc. Therefore, the name was changed to Pinnacle Ecological, Inc. Although Pinnacle's name change was completed in 2015, the business has had a continued presence in Palm Beach County since February 2008.

Form **W-9**
(Rev. December 2014)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

Print or type
See Specific Instructions on page 2.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.
Pinnacle Ecological, Inc.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification; check only **one** of the following seven boxes:
☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☑ S Corporation ☐ Partnership ☐ Trust/estate
☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶
Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner.
☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):
Exempt payee code (if any)
Exemption from FATCA reporting code (if any)
(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.)
1314 Neptune Drive, Suite 5

Requester's name and address (optional)

6 City, state, and ZIP code
Boynton Beach, Florida 33426

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Social security number
			–			–				

or

Employer identification number
4	7	–	5	0	1	2	9	2	6

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here **Signature of U.S. person ▶** Paul [signature] **Date ▶** 16 May 2017

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at *www.irs.gov/fw9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See *What is backup withholding?* on page 2.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

CHAPTER 3

MINIMUM QUALIFICATIONS DOCUMENTATION:

A. Pinnacle is registered with the State of Florida as an S Corporation: Articles of Organization provided on pages 9 to 14.

B. Business License provided on pages 9 to 14.

In 2008, Paul Fitzgerald started Pinnacle Group International, LLC. (Document Number L08000017723) as a sole proprietor located at 2219 Seacrest Boulevard, Delray Beach, Florida 33444. In September 2014, Mr. Fitzgerald met with the Small Business Development Center (SBDC) during a small business seminar sponsored by Palm Beach County Office of Small Business Administration (OSBA). With guidance from SBDC and OSBA, Mr. Fitzgerald initiated the application process to establish his environmental field services business as an S Corporation on 29 January 2015. During the application process, it was discovered that according to State records (SunBiz.org) another business was already using the name Pinnacle Group International, Inc. Therefore, the name was changed to Pinnacle Ecological, Inc. Although Pinnacle's name change was completed in 2015, the business has had a continued presence in Palm Beach County since February 2008.

C. Must hold a current, valid license to provide engineering, surveying and/or landscaping architectural services in the State of Florida as is applicable to the discipline(s) Proposer is submitting as follows:

Not Applicable (No license is required for the service/discipline (i.e., Environmental and Natural Resources) for which Pinnacle is applying).

D. Must employee a minimum of two individuals who holds a current, valid Florida license in engineering, surveying and/or landscaping architecture as is applicable to the discipline(s) Proposer is submitting as follows:

Not Applicable (No license is required for the service/discipline (i.e., Environmental and Natural Resources) for which Pinnacle is applying).

E. Has no reported conflict of interests in relation to this RFQ.

Pinnacle Ecological, Inc. has no conflict of interests in relation to this RFQ.

Electronic Articles of Organization
For
Florida Limited Liability Company

L08000017723
FILED 8:00 AM
February 19, 2008
Sec. Of State
jbryan

Article I

The name of the Limited Liability Company is:

PINNACLE GROUP INTERNATIONAL, LLC

Article II

The street address of the principal office of the Limited Liability Company is:

2219 SEACREST BOULEVARD
DELRAY BEACH, FL. 33444

The mailing address of the Limited Liability Company is:

2219 SEACREST BOULEVARD
DELRAY BEACH, FL. 33444

Article III

The purpose for which this Limited Liability Company is organized is:

MARINE SCIENTIFIC AND TECHNICAL FIELD SERVICES

Article IV

The name and Florida street address of the registered agent is:

PAUL FITZGERALD
2219 SEACREST BOULEVARD
DELRAY BEACH, FL. 33444

Having been named as registered agent and to accept service of process for the above stated limited liability company at the place designated in this certificate, I hereby accept the appointment as registered agent and agree to act in this capacity. I further agree to comply with the provisions of all statutes relating to the proper and complete performance of my duties, and I am familiar with and accept the obligations of my position as registered agent.

Registered Agent Signature: PAUL FITZGERALD

L08000017723
FILED 8:00 AM
February 19, 2008
Sec. Of State
jbryan

Article V

The name and address of managing members/managers are:

Title: MGR
PAUL FITZGERALD
2219 SEACREST BOULEVARD
DELRAY BEACH, FL. 33444

Article VI

The effective date for this Limited Liability Company shall be:

02/18/2008

Signature of member or an authorized representative of a member

Signature: PAUL FITZGERALD

APPROVED AND FILED

15 AUG 25 PM 1:50

SECRETARY OF STATE TALLAHASSEE, FLORIDA

CERTIFICATE OF INCORPORATION
-OF-
PINNACLE ECOLOGICAL, INC.

The undersigned, for the purpose of forming a corporation under the Florida General Corporation Act, hereby adopts the following Articles of Incorporation:

ARTICLE I. NAME

The name of this corporation is PINNACLE ECOLOGICAL, INC.

ARTICLE II. DURATION

The term of existence of the corporation is perpetual.

ARTICLE III. PURPOSE

The corporation may transact any and all lawful business for which corporations may be incorporated under the Florida General Corporation Act.

ARTICLE IV. CAPITAL STOCK

The aggregate number of shares which the corporation has authority to issue is 1,000,000, all of which shall be common shares with par value of $0.01.

ARTICLE V. REGISTERED OFFICE

The street address and mailing address of the principal place of business is 1314 Neptune Drive, Suite 5, Boynton Beach, FL 33426 and the street address of the initial registered office of the corporation is 1314 Neptune Drive, Suite 5, Boynton Beach, FL 3342 and the name of the initial registered agent is Paul Fitzgerald.

ARTICLE VI. DIRECTORS

The Board of Directors of the corporation shall consist of one member, but may be increased or decreased by a resolution of the Board of Directors adopted in the manner provided in the Bylaws of the corporation, provided that in no event shall the Board of Directors consist of less than one member.

The name and address of the Director which constitutes the first Board of Directors of the Corporation is:

NAME	ADDRESS
Paul Fitzgerald	1314 Neptune Drive, Suite 5, Boynton Beach, FL 3342

ARTICLE VII. INCORPORATORS

The name and address of the incorporator of the corporation is:

NAME	ADDRESS
Paul Fitzgerald	1314 Neptune Drive, Suite 5, Boynton Beach, FL 3342

IN WITNESS WHEREOF, the undersigned have subscribed their name this 18 day of August 2015

Paul Fitzgerald

STATE OF FLORIDA)
:ss
COUNTY OF PALM BEACH)

On this 13TH. day of AUGUST 2015, before me, the undersigned officer, personally appeared as Paul Fitzgerald, known to me to be the person whose name is subscribed to the within instrument, and acknowledged that they executed the same for the purposes therein contained.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

MAUREEN G KEATING
Notary Public - State of Florida
My Comm. Expires May 31, 2016
Commission # EE 203964

NOTARY PUBLIC, STATE OF FLORIDA AT LARGE

APPROVED AND FILED

15 AUG 25 PM 1:50

SECRETARY OF STATE TALLAHASSEE, FLORIDA

STATE OF FLORIDA

SECRETARY OF STATE

Certificate designating place of business or domicile for the service of process within this state, naming agent upon whom process may be served and names and addresses of the officers and directors.

PINNACLE ECOLOGICAL, INC.

The following is submitted, in compliance with Chapter 48.091, Florida Statutes: PINNACLE ECOLOGICAL, INC., a corporation organized under the laws of the state of Florida, with its principal office at 1314 Neptune Drive, Suite 5, Boynton Beach, FL 33426 has named Paul Fitzgerald at 1314 Neptune Drive, Suite 5, Boynton Beach, FL 33426 County of PALM BEACH, as its agent to accept service of process within this state.

OFFICERS	TITLES	SPECIFIC ADDRESSES
Paul Fitzgerald	PRES/DIR.	1314 Neptune Drive, Suite 5, Boynton Beach, FL 33426

ACCEPTANCE

I agree as Resident Agent to accept service of process: to keep this office open during prescribed hours, to post my name (and any other officers of said corporation authorized to accept service of process at the above Florida designated address) in some conspicuous Place in the office as required by law.

DATED: 18 August 2015

Paul Fitzgerald

Palm Beach County
Office of Small Business Assistance

Certifies That

Pinnacle Ecological, Inc.

VENDOR # **VS0000005031**

is a Small Business Enterprise as prescribed by section 2-80.21 – 2-80.35 of the Palm Beach County Code for a three year period from

June 7, 2016 to June 6, 2019

The following Services and/or Products are covered under this certification:

Environmental Consulting
Scientific and Technical Consulting
Quality Assurance and Control Consulting
Ecological Services

Allen Gray

Allen Gray, Manager

06/7/2016

Palm Beach County Board of County Commissioners

Mary Lou Berger, Mayor
Hal R. Valeche, Vice Mayor
Paulette Burdick
Shelley Vana
Steven L. Abrams
Melissa McKinlay
Priscilla A. Taylor

County Administrator
Verdenia Baker

CHAPTER 4

PROPOSAL RESPONSE REQUIREMENTS:

A. Experience, Background, Reference Feedback

Pinnacle Ecological, Inc. (Pinnacle) is an environmental science consulting company supporting coastal and offshore marine development activities. Pinnacle wishes to be considered for the Environmental / Natural Resources Professional Service sub-discipline. With a global reach, Pinnacle has provided environmental science services for government and private industry for eight years. Pinnacle's unique expertise focuses on environmental impact assessments, benthic assessment and monitoring surveys, habitat characterization and GIS mapping, field-data collection, Quality Assurance/Quality Control (QA/QC) data management, environmental permitting and permit compliance, coastal hydrodynamics, and marine habitat restoration. Pinnacle focuses on environmental due diligence, feasibility and risk assessment studies to identify potential short and long term risks associated with beach nourishment, port dredging, and related coastal development. Pinnacle also investigates the potential environmental impacts that may affect water quality, fishing, recreation and tourism, and resource health. Pinnacle's environmental emergency response service provides rapid deployment of professional scientific field teams to assess environmental conditions and initiate mitigation measures to limit ecological impacts. Pinnacle scientists and technicians have extensive experience and expertise conducting environmental field surveys associated with beach nourishment, dredging, seawall construction, and environmental baseline studies for coastal development. Pinnacle is recognized throughout the industry as experts in the field of marine environmental science, implementing sound scientific methodology, and producing exemplary scientific reports which help to streamline the environmental permit process from concept through completion to avoid potential impacts and maintain project schedules. Pinnacle will utilize its expertise and knowledge of environmental rules and regulations to permit and guide the City of Delray Beach through responsible and sustainable development while remaining compliant with local, state, federal and international laws. Pinnacle routinely engages with Government agencies when developing permit applications, and management plans for the collection, management, and quality control of coastal and oceanic data. Pinnacle has experience developing successful solutions to complex and occasionally controversial marine ecological programs. Additionally, Pinnacle has developed field and laboratory tests to evaluate data accuracy, manage data, and support QA/QC methods. Pinnacle routinely collaborates with regulatory agencies including: US Army Corps of Engineers, US Coast Guard, National Marine Fisheries Service, National Park Service, Florida Department of Environmental Protection, Florida Inland Navigation District, and Florida Fish and Wildlife Conservation Commission when completing projects. Pinnacle has extensive experience developing and implementing Best Management Practices (BMPs) for laboratory and field protocols; Pinnacle will work collaboratively with all regulatory and Government agencies to develop BMPs to ensure success of City of Delray Beach projects. Key personnel are experienced scientific divers and members of American Academy of Underwater Sciences (AAUS). The team at Pinnacle is recognized as a preferred contractor by the National Oceanic and Atmospheric Administration (NOAA) and the Florida Keys National Marine Sanctuary (FKNMS) as leaders in coral reef damage assessment, reef rehabilitation, and coral transplantation. Pinnacle is also recognized by the Florida Fish and Wildlife Conservation Commission (FWC) to provide professional manatee and sea turtle observer services and licensed to conduct surveys of other threatened and endangered species. In 2008, Pinnacle achieved Presidential Recognition of the 2007 Coastal America Partnership Award for Participation with the Florida Keys National Marine Sanctuary Coral Protection and Restoration Program. Pinnacle was also awarded with Special Recognition for Exemplary Environmental Stewardship during the Breaker's Reef Restoration in 2009 by The Florida Association of Environmental Professionals.

Client References:

1. MSE Group Inc. (formerly 3E Consultants)
   Contact names: Maurice Pearson and Paul Seavy
   Contact email address: mpearson@msegroup.com; pseavy@msegroup.com
   Address: 2608 South 86th Street, Suite C, Tampa, Florida 33619.
   Telephone number: 818-363-0862
   Dates of service: September 2016 to December 2016. The project also has a provision for additional work to extend to 2018.
   Scope: Environmental/Natural Resources

2. Moffat & Nichol, Inc.
   Contact name: Tim Blankenship, P.E.
   Contact email address: tblankenship@moffatnichol.com
   Address: 3390 Mary Street, Suite 260, Coconut Grove, Florida, 33133.
   Telephone number: 305-230-1924
   Dates of service: August 2016 to Present
   Scope: Environmental/Natural Resources

3. Florida Inland Navigation District
   Contact name: Mark Crosley
   Contact email address: mcrosley@aicw.org
   Address: 1314 Marcinski Road, Jupiter, Florida 33477
   Telephone number: 561-627-3386
   Dates of service: June 2016 to Present
   Scope: Environmental/Natural Resources

4. Sea Diversified, Inc.
   Contact name: William T. Sadler
   Contact email address:
   Address: 21 NW 2nd Street, Delray Beach, Florida 3344
   Telephone number: 561-243-4920
   Dates of service: June 2016 to Present.
   Scope: Environmental/Natural Resources

5. Taylor Engineering, Inc.
   Contact name: David Stites
   Contact email address:
   Address: 10151 Deerwood Park Boulevard, Jacksonville, Florida, 32256
   Telephone number: 904-731-7040
   Dates of service: June 2016 to Present
   Scope: Environmental/Natural Resources

6. BoatU.S.
   Contact name(s):
   Contact email address:
   Address: 800 South Pickett Street, Alexandria, Virginia, 22304
   Telephone and fax numbers:
   Dates of service: March 2011 to Present
   Scope: Environmental/Natural Resources

7. Humiston & Moore Engineers
   Contact names: Matthew Fleming and Brett D. Moore
   Contact email address: MFleming@humistonandmoore.com and bdm@humistinandmoore.com
   Address: 5679 Strand Court, Naples, Florida, 34110
   Telephone number: 239-594-2021
   Dates of service: June 2015 to Present
   Scope: Environmental/Natural Resources

8. David Miller and Associates, Inc.
   Contact name: David Miller
   Contact email address: dmiller@dma-us.com
   Address: 410 Pine Street, S.E., Suite 210, Vienna, Virginia, 22180
   Telephone number: 703-255-1300
   Dates of service: June 2016 to April 2017
   Scope: Environmental/Natural Resources

9. AECOM (formerly URS Corporation)
   Contact name: Keith Standard
   Contact email address:
   Address: 7650 Corporate Center Drive, Miami, Florida, 33126
   Telephone number: 305-514-2464
   Dates of service: June 2010 to January 2015
   Scope: Environmental/Natural Resources

10. Great Lakes Dock and Dredge
    Contact name(s):
    Contact email address:
    Address:
    Telephone number:
    Dates of service: 2011 to 2015
    Scope: Environmental/Natural Resources

Key Personnel:
All key personnel will be providing services under the Environmental/Natural Resources Professional Service discipline. Resumes for Key Personnel are provided in **ATTACHMENT A**.

Paul Fitzgerald: President/CEO - Project Manager, Lead Field Scientist
Francesca Fourney: Senior Marine Scientist - Project Manager, Lead Field Scientist
Randi Shiplett: Senior Marine Scientist - Project Manager, Data Analysis/Report Production Manager

B. APPROACH TO PROJECT MANAGEMENT

Pinnacle has years of experience in managing personnel and complex, long-term, multidisciplinary, and multimillion dollar environmental studies. The proposed Pinnacle Project Manager has over 27 years of experience successfully managing similar types of projects. Pinnacle's approach to project management would be to meet the primary objectives of being responsive to client needs, providing high-quality services, and meeting project schedules and budget commitments. These objectives would be met for any potential project by implementing proven managerial methods of assigning the appropriate personnel to individual tasks, maintaining frequent communication among team members, monitoring schedule compliance and milestones, and closely tracking man-hours used and associated costs. The key to meeting these objectives would be to provide the best available staff within a management structure having specific lines of authority and accountability.

Pinnacle would utilize in-house professional scientific staff that are familiar with this region of Florida and its diverse environmental and natural resources. Pinnacle will utilize its expertise and knowledge of environmental rules and regulations to guide the City of Delray Beach through responsible and sustainable development while remaining compliant with local, state, and federal laws. Located 2.8 miles from the City of Delray Beach City Hall, Pinnacle's office is located at 1314 Neptune Drive, Suite 5, Boynton Beach, Florida 33426. The close proximity of Pinnacle's office and key personnel will provide regular face-to-face management meetings for most project management requirements and facilitate rapid response of field personnel to address potential environmental emergency needs of the City. Pinnacle currently has other active environmental projects, but a project with the City of Delray Beach is important and Pinnacle will commit its most qualified key personnel to manage and facilitate the needs of the City. Pinnacle's key personnel are committed 40 to 55% to ongoing environmental projects and would be available to actively participate on potential projects with the City of Delray Beach. The City of Delray Beach will receive the benefit of a coordinated team of environmental specialists to address the project needs in their respective professional fields and within the strict schedule identified for each of the proposed projects. The composite result is a lean, competent and highly qualified team. Pinnacle will work collaboratively with all regulatory and Government agencies to development Best Management Practices (BMPs) to appropriately represent the City of Delray Beach during the environmental and regulatory process. Pinnacle specializes in multidisciplinary projects assessing marine and aquatic conditions and evaluating potential environmental impacts, particularly of coastal and marine development. Pinnacle is recognized throughout the industry as experts in the field of marine environmental science and for streamlining the environmental process from concept through completion to avoid potential impacts and maintain project schedules.

Pinnacle's fundamental goal is to provide the City of Delray Beach with a level of service and scientific integrity that will result in client satisfaction through project excellence. Pinnacle will provide all labor, materials, equipment, supplies, and travel to provide Professional Services for the Environmental and Natural Resources sub-discipline to the City of Delray Beach. We are committed to planning and accomplishing work in a timely fashion and in strict adherence to project goals and deliverables schedules.

Pinnacle's approach to project management is to fully engage its resources from concept through completion. The technical approach to environmental projects may vary depending on final permit requirements and whether a project has existing permits requirements. Other factors that may influence the approach to project management include: the presence of Essential Fish Habitat (EFH) and the presence of Threatened or Endangered Species. Most projects would likely start with a feasibility study to assess the potential impacts and permit viability of a proposed project. Pinnacle would conduct preliminary field studies necessary to complete the Florida Department of Environmental Protection

(FDEP), US Army Corps of Engineers (USACE), and any additional permit applications that may be required. Preliminary field studies may include: hardbottom diver investigations, *in situ* nearshore hardbottom characterization, resource delineation verification, shore-perpendicular transect surveys and video documentation, seagrass surveys, beach and nearshore sediment sampling, ground-truthing of historical resource data, and nearshore marine turtle surveys. Pinnacle has conducted successful monitoring studies associated with beach nourishment projects, artificial reef design and implementation, resource delineation and mapping, and protected species monitoring. Pinnace's team employs Best Management Practices (BMPs) established by, USACE, National Marine Fisheries Service (NMFS), US Fish and Wildlife Service (USFWS), FDEP, Florida Fish and Wildlife Conservation Commission (FWC), and Palm Beach County in fulfillment of potential project goals.

Other potential project management requirements may include an Endangered Species Act (ESA) Section 7 Consultation with NMFS and USFWS in the event ESA listed species are identified in close proximity to the proposed project area. Pinnacle has performed hundreds of Section 7 Consultations and is familiar with the numerous environmental assessments, qualitative and quantitative data collection and analysis reports, and monitoring plans that are required to successfully complete the permit process. Pinnacle's scientific team also understands how important it is to strictly adhere to permit deliverable schedules and quality assurance and quality control (QA/QC) protocols. Pinnacle would utilize its expertise and knowledge of environmental rules and regulations to permit and guide the City of Delray Beach through responsible and sustainable development while remaining compliant with local, state, and federal laws. Pinnacle would work collaboratively with all regulatory and Government agencies to development Best Management Practices (BMPs) to ensure project success. Pinnacle's key personnel would attended all necessary pre-application meetings, pre-construction meetings, and any post-constructions meetings in order to fully engage and provide input. Pinnacle routinely engages with Government agencies when developing permit applications, and management plans for the collection, management, and quality control of coastal and oceanic data. Pinnacle has experience developing successful solutions to complex and occasionally controversial marine ecological programs. Additionally, Pinnacle has developed field and laboratory tests to evaluate data accuracy, manage data, and support QA/QC methods. Pinnacle routinely collaborates with regulatory agencies including: USACE, US Coast Guard, NMFS, National Park Service, Broward County, FDEP, Florida Inland Navigation District, and FWC when completing projects. Pinnacle would provide its team of qualified marine scientists to ensure scientific quality control for all field data collection and data analysis, manage scientific diver safety, and to ensure deliverables are submitted within the established schedule.

C. PROJECTS FOR SIMILAR SERVICES (Detailed exhibits can be found in ATTACHMENT B)

1. Benthic Assessment, Seagrass Survey, and Resource Mapping for Intracoastal Waterway (ICWW) Dredge Project Permitting

Organization/Owner name: Florida Inland Navigation District (FIND)
Address: Palm Beach County, Florida
Project date: June 2016 to November 2016
Status of project: The project was conducted in support of the permit application process for proposed ICWW dredging activities. Pinnacle conducted a preliminary survey and completed a Unified Mitigation Assessment Method (UMAM) for the proposed area to be dredged, and submitted a report to FIND summarizing the methods and results of the survey. The project is currently undergoing the permitting process; Pinnacle may need to provide additional services and as the project continues through permitting and future phases.
Scope: Environmental/Natural Resources

2. Coastal and Oceanic Biological Monitoring and Reef Mapping for Beach Nourishment
   Organization/Owner name: Moffat & Nichol and the Town of Hillsboro Beach
   Address: Hillsboro and Deerfield Beach, Florida
   Project date: August 2016 to Present
   Status of project: Pinnacle completed the Year 1 Post-Construction Survey and Report for the project. Project permits require a Year 2 Post-Construction Survey which Pinnacle will conduct in late summer/early fall.
   Scope: Environmental/Natural Resources

3. Benthic Assessment, Seagrass Survey, and Resource Mapping for Coastal Development and Permitting
   Organization/Owner name: Sea Diversified Inc. and the City of Riviera Beach
   Address: City of Riviera Beach Marina, Riviera Beach, Florida
   Project date: September 2016 to January 2017
   Status of project: Pinnacle completed the Benthic Assessment and Resource Mapping Survey and Report for permit modifications to the City of Riviera Beach Marina redevelopment project earlier this year. Pinnacle may be required to complete a UMAM and/or Endangered Species Act (ESA) Section 7 Consultation, and additional surveys (i.e. Pre-construction and Post-Construction Surveys) as the project continues through the construction process.
   Scope: Environmental/Natural Resources

4. Benthic Assessment and Seawall Resource Survey – Feasibility Study
   Organization/Owner name: Sea Diversified Inc.
   Address: Fisher Island, Florida
   Project date: May 2016
   Status of project: Pinnacle completed the Benthic Assessment and Seawall Resource Survey and Report on time and within budget.
   Scope: Environmental/Natural Resources

5. Coastal and Oceanic Hydrodynamic Data Collection - in Support of Model Verification
   Organization/Owner name: David Miller and Associates, Inc. and Broward County
   Address: Port Everglades, Florida
   Project date: June 2016 to April 2017
   Status of project: Pinnacle collected, processed, and analyzed coastal and oceanic hydrodynamic data in support of sediment transport numerical modeling verification for the Port Everglades Navigation Improvement Project. The work was completed in support of pre-construction permit requirements.
   Scope: Environmental/Natural Resources

6. Environmental Assessment, Habitat Characterization and Resource Mapping, and Coral Reef Restoration and Monitoring
   Organization/Owner name: MSE Group, Inc. (formerly 3E consultants)
   Address: Miami, Florida
   Project date: May 2014 to Present
   Status of project: Pinnacle was contracted to perform a series of environmental assessment studies with coral relocation activities, habitat mapping, and resource monitoring. The environmental studies were performed in two separate phases. Phase I included baseline data collection and coral relocation prior to construction and Phase II included monitoring of relocated coral resources. Environmental studies for Phase I were conducted prior to project construction

from May through October 2014. Pinnacle is currently conducting Phase II activities. Permits required a minimum of two post-construction monitoring events at 1.5 years and 3.0 years following completion of coral relocation. Pinnacle completed the 1.5 year monitoring survey and report during the fall of 2016. Pinnacle plans to complete the year 3.0 monitoring event during the fall of 2018
Scope: Environmental/Natural Resources

7. Benthic Assessment and Seagrass Habitat Mapping Survey, Environmental Permitting and Mitigation Planning

Organization/Owner name: Humiston & Moore Engineers and the Florida Department of Environmental Protection
Address: Hugh Taylor Birch State Park, Fort Lauderdale, Florida
Project date: June 2015 to Present
Status of project: Pinnacle completed a preliminary survey of the project area in June 2015, in support of the permit application process. Results from this survey were used to complete a UMAM, develop a Mitigation Plan, and conduct an ESA Section 7 Consultation for the project. The project is currently undergoing upland construction. Pinnacle will conduct the pre-construction survey for the in-water construction activities this summer. Permit specifications require a pre-construction survey and post-construction surveys, as well as mitigation monitoring for the project.
Scope: Environmental/Natural Resources

8. Seagrass Habitat Damage Assessment, Restoration, and Monitoring

Organization/Owner name: BoatU.S.
Address: Islamorada, Florida
Project date: October 2015 to Present
Status of project: Pinnacle completed the initial seagrass habitat damage assessment in the Fall of 2015. Pinnacle helped BoatU.S. obtain a Joint Coastal Permit from US Army Corp of Engineers and Florida department of Environmental Protection to conduct seagrass restoration activities at the injury site. Pinnacle completed the restoration activities and baseline monitoring event earlier this year. The permit requires additional annual surveys for five years following the restoration activities to monitor restoration success.
Scope: Environmental/Natural Resources

9. Coral Reef and Seagrass Habitat Damage Assessment, Restoration, and Monitoring

Organization/Owner name: BoatU.S.
Address: Dry Tortugas National Park, Florida
Project date: March 2011 to April 2014
Status of project: Pinnacle completed the damage assessment and restoration activities and required post-restoration monitoring. The project was completed on time and within budget.
Scope: Environmental/Natural Resources

10. Seagrass Habitat Damage Assessment and Restoration, Submerged Gas Pipeline Mitigation and Permit Compliance

Organization/Owner name: AECOM (formerly URS Corporation)
Address: Biscayne Bay, Miami, Florida
Project date: June 2010 to January 2015
Status of project: Pinnacle complete the seagrass restoration on time and within project budget.

Scope: Environmental/Natural Resources

D. ORGANIZATIONAL STRUCTURE

Based on potential environmental and natural resource related projects for the City of Delray Beach, Pinnacle has assembled a highly competent and respected team consisting of in-house professional scientific staff to provide the City with a thorough and high-quality project. Key personnel were chosen after careful screening and consideration of a number of alternatives. The following criteria were used for selecting internal personnel: length and quality of experience, including relevant education and expertise with previous work similar in complexity to potential projects for the City; familiarity with designing and conducting studies concerning potential impacts associated with environmental and natural resources; proven qualifications to perform required field and desktop tasks in a high-quality fashion that is on time and within budget; recognition of previous work; organizational abilities; communication skills (written and oral); time availability; lack of conflict of interest; ability to think logically, creatively, and critically; and proven ability to work as part of a multidisciplinary team.

It is important to point out that the proposed personnel and team members have worked together for many years on numerous projects, resulting in high-quality field surveys and deliverables. Of particular significance is the fact that the proposed scientific team, from corporate perspectives, has conducted many studies that have a high degree of relevance to the City's potential requirements.

Through careful selection of key personnel, Pinnacle has an efficient professional scientific team to support the City's environmental and natural resource requirements. Key Pinnacle personnel responsibilities and experience are listed and detailed resumes with their experience have been included in **ATTACHEMENT A**. Naming of personnel is a commitment from Pinnacle that such personnel will be available for the services, if we are awarded the work.

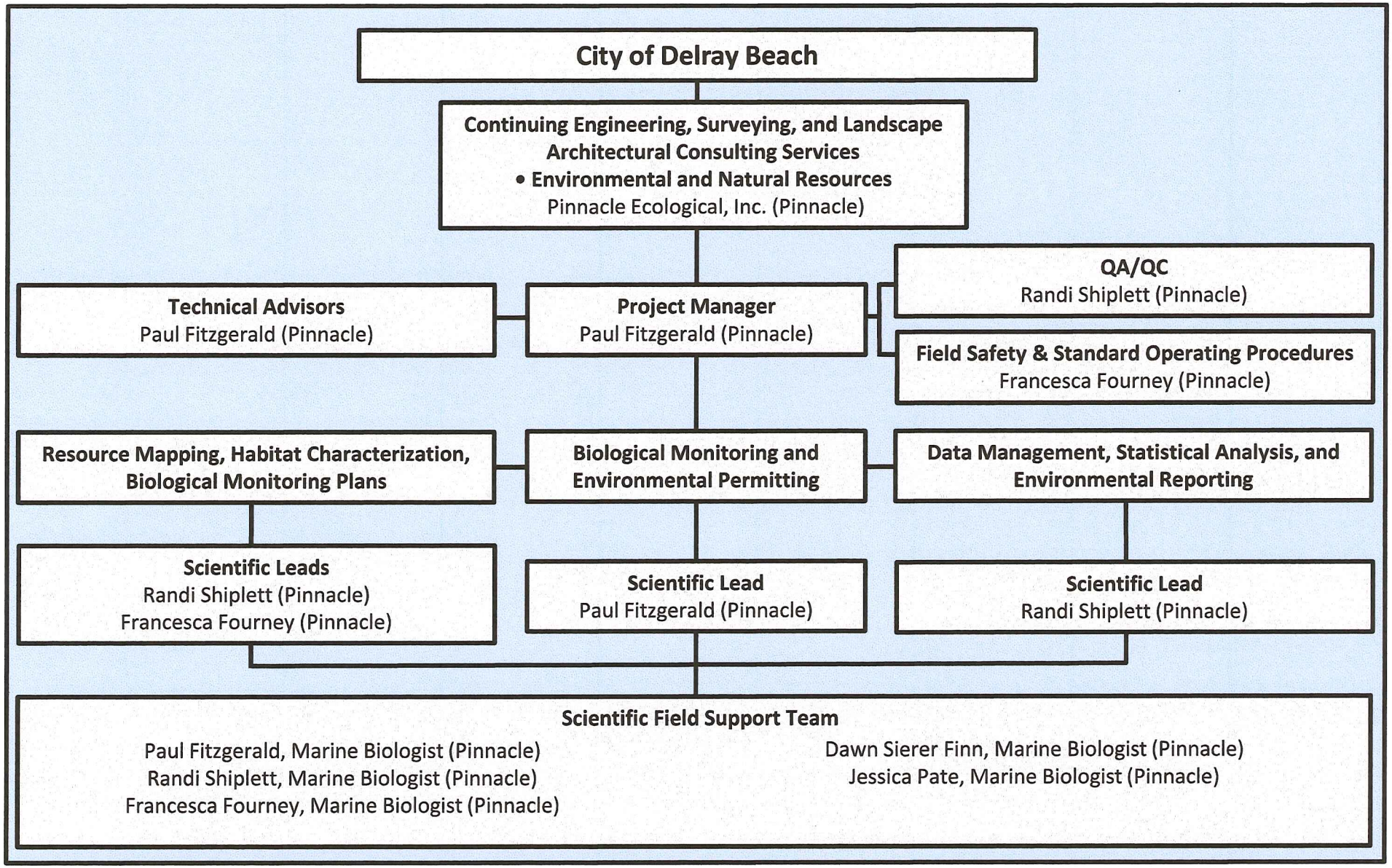


Figure 1. Pinnacle's organizational chart for providing professional environmental science services in support of the *Environmental and Natural Resource* discipline presented in **SECTION 3: SCOPE OF SERVICES** in the City of Delray Beach's RFQ titled *Continuing Engineering, Surveying, and Landscape Architectural Consulting Services* (*RFQ No. 2017-048*).

CHAPTER 5

Required Forms:
Public Entity Form, Drug Free Workplace Form, Conflict of Interest Form, and Acknowledgement of Addenda Form are provided on the following pages.

Form B - Public Entity Crimes

NOTIFICATION OF PUBLIC ENTITY CRIMES LAW

Pursuant to Section 287.133, *Florida Statutes*, you are hereby notified that a person or affiliate who has been placed on the convicted contractors list following a conviction for a public entity crime may not submit a proposal on a contract to provide any goods or services to a public entity; may not submit a proposal on a contract with a public entity for the construction or repair of a public building or public work; may not submit proposals on leases or real property to a public entity; may not be awarded or perform work as a contractor, supplier, sub-Proposer, or consultant under a contract with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017 [F.S.] for Category Two [$35,000.00] for a period of thirty-six (36) months from the date of being placed on the convicted contractors list.

Acknowledged by:

Pinnacle Ecological, Inc.

Firm Name

Paul Fitzgerald

Digitally signed by Paul Fitzgerald
DN: cn=Paul Fitzgerald, o=Pinnacle Ecological, Inc., ou, email=pfitzgerald@pinnacleecological.com, c=US
Date: 2017.05.29 17:45:34 -04'00'

29 May 2017

Signature

Date

Paul Fitzgerald, President/CEO

Printed Name and Title

Form C - Drug-Free Workplace

In the event a tie exists at the conclusion of evaluations, preference will be given to the supplier(s) who certifies it has a drug-free workplace program in accordance with Section 287.087, Florida Statutes. The drug-free workplace preference is applied as follows:

TIE: Whenever two or more proposals are equal with respect to scoring for the evaluation criteria (e.g., price, experience, quality, service) are received for the procurement of commodities or contractual services, a proposal received from a supplier that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing a tie will be followed if none of the tied suppliers have submitted this Form C and/or have a drug-free workplace program.

As the person authorized to sign this statement, I certify that this firm complies fully with the following requirements:

1) This firm publishes a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2) This firm informs employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
3) This firm gives each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
4) In the statement specified in subsection (1), this firm notifies the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5) This firm imposes a sanction on or requires the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
6) This firm will continue to make a good faith effort to maintain a drug-free workplace through implementation of this section.

Acknowledged by:

Pinnacle Ecological, Inc.

aclecological.com, c=US

Signature | Date

Paul Fitzgerald, President/CEO | 29 May 2017

Printed Name and Title

Form D - Conflict of Interest Disclosure

The award of the agreement is subject to the provisions of Chapter 112, Florida Statutes. All Proposers must disclose within their Proposal, the name of any officer, director, or agent who is also an employee or relative of an employee of the City of Delray Beach.

Furthermore, all Proposers must disclose the name of any City employee or relative(s) of a City employee who owns, directly or indirectly, an interest in the Proposers firm or any of its branches.

The purpose of this disclosure form is to give the City the information needed to identify potential conflicts of interest for key personnel involved in the award of this contract.

The term "conflict of interest" refers to situations in which financial or other personal considerations may adversely affect, or have the appearance of adversely affecting, an employee's professional judgment in exercising any City duty or responsibility in administration, management, instruction, research, or other professional activities.

Please check one of the following statements and attach additional documentation if necessary:

☒ To the best of our knowledge, the undersigned firm has no potential conflict of interest as defined in Chapter 112, Florida Statutes and Section 2-443, Palm Beach County Code of Ordinances.

☐ The undersigned firm, by attachment to this form, submits information which may be a potential conflict of interest due to other Cities, Counties, contracts, or property interest for this RFQ.

Acknowledged by:

Pinnacle Ecological, Inc.

Firm Name

Paul Fitzgerald

Digitally signed by Paul Fitzgerald
DN: cn=Paul Fitzgerald, o=Pinnacle Ecological, Inc., ou, email=pfitzgerald@pinnaclecological.com, c=US
Date: 2017.05.29 17:47:07 -04'00'

Signature

Date

Paul Fitzgerald, President/CEO

29 May 2017

Printed Name and Title

Form E - Acknowledgment of Addenda

The Proposer hereby acknowledges the receipt of the following addenda, which were issued by the City and incorporated into and made part of this RFQ. It is the sole responsibility of the Proposer to ensure that all addenda have been received and receipt of each has been acknowledged. Failure to submit acknowledgement of each addendum issued may result in the Proposer being deemed non-responsive.

ADDENDA NUMBER	ADDENDA DATE
Addendum # 1	April 24, 2017
Addendum # 2	April 27, 2017
Addendum # 3	May 4, 2017
Addendum # 4	May 10, 2017
Addendum # 5	May 10, 2017
Addendum # 6	May 11, 2017
Addendum # 7	May 18, 2017
Addendum # 8	May 19, 2017

Paul Fitzgerald

Digitally signed by Paul Fitzgerald
DN: cn=Paul Fitzgerald, o=Pinnacle Ecological, Inc., ou, emailAddress=pfitzgerald@pinnacleecological.com, c=US
Date: 2017.05.29 17:48:08 -04'00'

President/CEO

Signature of Proposer's Agent — Title

Paul Fitzgerald — 29 May 2017

Printed Name — Date

CHAPTER 6

Evidence of Insurance: Certificate of current insurances showing coverage, forms, limits.

PINNGRO-01 MWOODMAN

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 05/25/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Associated Agencies, Inc	CONTACT NAME: Mary Woodman PHONE (A/C, No, Ext): (847) 427-8400 3452 FAX (A/C, No): (847) 427-3430 E-MAIL ADDRESS: mwoodman@associated.cc	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A : Liberty Surplus Ins Corp	
INSURED Pinnacle Ecological, Inc. Pinnacle Group International, LLC 1314 Neptune Drive, Suite 5 Boynton Beach, FL 33426	INSURER B : Newman, Martin & Buchan LLP	
	INSURER C : Travelers Casualty Insurance	19038
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY							
	CLAIMS-MADE X OCCUR	X		UVEDE103259110	09/22/2016	09/22/2017	EACH OCCURRENCE	$ 1,000,000
	X Professional Liab						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 100,000
	X Pollution Liab						MED EXP (Any one person)	$ 10,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						PERSONAL & ADV INJURY	$ 1,000,000
	X POLICY PRO-JECT LOC						GENERAL AGGREGATE	$ 2,000,000
	OTHER:						PRODUCTS - COMP/OP AGG	$ 2,000,000
								$
A	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	ANY AUTO			UVEDE103259110	09/22/2016	09/22/2017	BODILY INJURY (Per person)	$ 1,000,000
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
	UMBRELLA LIAB OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$
	DED RETENTION $							$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N						X PER STATUTE / OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	N/A		TA000790D	02/17/2017	02/17/2018	E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
C	Watercraft			Z0H41M5995816ND	06/21/2016	06/21/2017	Limit	50,000
A	Marine Liability			UVEDE103259110	09/22/2016	09/22/2017	Limit	1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Florida Inland Navigation District is added as Additional Insured with respects to the General Liability per written contract.
Please note: WC is Maritime policy

CERTIFICATE HOLDER

Florida Inland Navigation District
1314 Marcinski Road
Jupiter, FL 33477

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Mary R Woodman

ATTACHMENT

EXHIBITS –PROJECTS FOR SIMILAR SERVICES

Paul Fitzgerald
Marine Biologist

PINNACLE ECOLOGICAL, INC.
MARINE, ESTUARINE AND COASTAL ENVIRONMENTAL SCIENCE
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EDUCATION
- Master of Science (Candidate) Marine Biology, Nova Southeastern University (NSU), 2017.
- Master of Science (Candidate) Coastal Zone Management, NSU, 2017.
- Bachelor of Science, Marine Biology, Texas A&M University, 1992.

CERTIFICATIONS
- Nitrox Enriched-Air Blender, International Association of Nitrox & Technical Divers (IANTD) (2002)
- Enriched Air Nitrox Instructor, Professional Association of Diving Instructors (PADI) (1997)
- Staged Decompression, Technical Divers International (TDI) (1996)
- Advanced Nitrox Diver, TDI (1996)
- Enriched Air Nitrox Diver, IANTD (1994)
- Scientific Diver Certification, American Academy of Underwater Scientists (AAUS) (1993-2011)
- Master Scuba Diving Instructor, PADI (1992)
- Working Diver Certification, National Oceanic and Atmospheric Administration (1992)
- Research Diver, Texas A&M University (1992)
- Open Water Scuba Diving Instructor, PADI (1989)
- Dive Master, PADI (1988)
- Rescue Diver, PADI (1987)
- CPR/Standard First Aid, American Red Cross (1985 – 2011)
- Oxygen Provider, Diver's Alert Network (1994-2011)
- Safe Boating, U.S. Coast Guard Auxiliary (1992)

% AVAILABILITY
- 58 percent

PROFESSIONAL PROFILE
Mr. Fitzgerald is an accomplished marine biologist with 27 years of experience conducting ecological field studies of benthic communities. He has been involved in the design, implementation, and reporting of a multitude of complex environmental field studies. He has served as Project Manager and Chief Scientist on numerous oceanographic and environmental studies around the world. His expertise include design, management and implementation of multi-disciplinary environmental impact assessments, resource characterization and mapping surveys, habitat and resource restoration, video and still photographic documentation surveys, and environmental monitoring programs. Mr. Fitzgerald has managed international scientific operations in the Middle East, Russia, and throughout the Caribbean. During these surveys, he has supervised and conducted biological, sediment and water sample collection, processing, and analysis. He has experience coordinating the logistics of equipment, personnel, and sample transport to remote locations with limited resources and strict adherence to chains of custody. He has been responsible for *in situ* and laboratory taxonomic identification of invertebrate macrofauna and ichthyofauna.

Mr. Fitzgerald has extensive experience as a scientific diver and diving supervisor. He has been appointed as a diving supervisor during studies in the Arabian Gulf, Arctic Ocean, Alaska, Florida and the Gulf of Mexico, including the Flower Garden Banks, the Texas Gulf Coast, Galveston Bay, Mississippi Sound and near numerous oil and gas structures. Mr. Fitzgerald is certified as a *Master Scuba Diving Instructor*, *Working Diver*, *Scientific Research Diver* and *Technical Diver* with multiple agencies including the National Oceanic and Atmospheric Administration (NOAA), American Academy of Underwater Scientists (AAUS), Professional Association of Diving Instructors (PADI), International Association of Nitrox & Technical Divers (IANTD) and Technical Divers International (TDI). He has participated in biological surveys of nearshore reefs, sea grass beds, beach restorations, and dredging projects. He has characterized and mapped seagrass beds, oyster reefs, coral reefs and essential fish habitat. He also has conducted technical deep water research and monitoring on artificial reefs in the Gulf of Mexico and Atlantic Ocean. His diving experience includes *in situ* identification and characterization of hard bottom substrates and associated biota, fish censuses, coral reef studies, professional documentation of benthic epifauna using video and still photography, and collection of biological and sediment samples. He has conducted studies with juvenile and adult sea turtles that included capture using carefully monitored entanglement methods, collection of blood samples and stomach contents. Mr. Fitzgerald is recognized by the Florida Keys National Marine Sanctuary (FKNMS) for his leadership in coral reef damage assessment, reef rehabilitation and coral transplantation. He is also recognized by the National Marine Fisheries Service (NMFS) and the Florida Fish and Wildlife Conservation Commission (FWC) as a manatee and sea turtle observer.

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AFFILIATIONS

- American Association of Underwater Scientists (AAUS) 1991 to 2015.
- Professional Association of Diving Instructors (PADI), 1989 to 2015
- National Association of Environmental Professionals (NAEP), 2008 to 2015
- Florida Association of Environmental Professionals (FAEP), 2008 to 2015

RECOGNITION

- Presidential Recognition of the 2007 Coastal America Partnership Award for Participation with the Florida Keys National Marine Sanctuary Coral Protection and Restoration Program (2008)
- Awarded with Special Recognition for Exemplary Environmental Stewardship during the Breaker's Reef Restorain 2009 by The Florida Association of Environmental Professionals

RELEVANT PUBLICATIONS

- Damage assessment plan for 51ft sailing vessel grounding Dry Tortugas National Park, Key West, Florida. 2011. Report for National Park Service, Key West, Florida. 10pp.)
- Emergency restoration plan for 51ft sailing vessel grounding Dry Tortugas National Park, Key West Florida. 2011. Report for National Park Service, Key West Florida. 11pp.)
- Damage assessment survey for vessel grounding on Jewfish Bush Bank, Fiesta Key, Florida. 2009. Report for Fowler White Burnett, P.A., Miami, Florida. 24pp.)

EXPERIENCE

- **2014 to 2016: Pinnacle Ecological, Inc. – President.** Conducting environmental assessments of marine resources and essential fish habitat in association with pipeline installations, directional drill operations, beach renourishment, port expansion and dredging and other coastal and offshore development activities. Implementing comprehensive habitat damage assessment and restoration projects particularly associated with hard bottom, coral reef, and seagrass communities.
- **2007 to 2014: Pinnacle Group International, LLC. – Managing Director.** Implemented comprehensive environmental baseline assessments of benthic marine resources and essential fish habitats. Provided quality control to ensure project adherence to environmental permit requirements for Florida's largest dredging project in the Port of Miami. Planned, permitted and implemented large scale habitat damage assessment and restoration projects in Biscayne Bay National Aquatic Preserve and in the Florida Keys National Marine Sanctuary. Provided scientific diving and safety management services to conduct extensive habitat delineation and GIS mapping of environmentally sensitive resources. Provided marine mammal monitoring during coastal construction activities at King's Bay Naval Submarine Base.
- **1994 to 2007: Continental Shelf Associates, Inc. – Project Manager and Staff Scientist.** Served as Project Manager and Chief Scientist on numerous multi-disciplined environmental impact assessments, resource characterization and mapping surveys, habitat and resource restoration, video and still photographic documentation surveys, and environmental monitoring programs. He has conducted coral reef and seagrass damage assessment projects utilizing *Fishbone Grid Mapping* to assess damage to coral reef and other resources. He has designed and constructed coral nursery facilities for coral colonies and colony fragments. He has transplanted over 10,000 corals during restoration activities on various projects.
- **1987 to 1994: Texas A&M University – Research Specialist and Diving Supervisor.** Conducted research on post-pelagic juvenile and subadult Kemp's Ridley sea turtles (*Lepidochelys kempii*, Garman). Research focused on sea turtle utilization of nearshore waters of the northwestern Gulf of Mexico as nursery or developmental feeding grounds. Entanglement netting surveys were conducted during April -October 1992 -1994, primarily at Sabine Pass, Texas and Calcasieu Pass, Louisiana. The focus of the research was ecosystem-based to understand factors influencing Kemp's Ridley in-water abundance and distribution including nesting dynamics, environmental conditions, prey availability, and predation pressure.
- **1990 to 1992: National Marine Fisheries Service – Biological Aid.** Kemps Ridley (*Lepidochelys kempii*, Garman) sea turtles were tracked with satellite and radio/sonic telemetry from release points along the Georgia coast beginning in October 1991. Migration and diving behavior of the sea turtles was recorded along the U.S. southeastern Atlantic coast. Monitored marine mammals and sea turtles during the decommissioning and removal of offshore platforms using explosives. Conducted research on the ecological effects of offshore explosives.
- **1987 to 1992: LGL Ecological Research Associates – Arctic Diving Scientist.** Designed, constructed, and managed a remote Arctic fisheries lab, utilized technical cold water/ice diving methods to collect and monitor Arctic marine life and algal specimens in the Boulder Patch off Prudhoe Bay, Alaska. Conducted extensive coastal field surveys of Arctic anadromous fishes using fyke nets, and identified and monitored marine mammals in the coastal delta areas.

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RELEVANT PROJECT EXPERIENCE

- **Habitat Characterization and Mapping – Palm Beach County, Florida.** Characterized and mapped seagrass and hard bottom habitat located in Lake Worth Lagoon. This assessment survey was conducted in support of a pre-dredging permit for the Florida Inland Navigational District. The objective of the benthic assessment and resource survey was to delineate and map benthic habitats throughout the entire survey area including seagrass and hardbottom habitats, to identify and quantify resources occurring in these habitats, and to collect stony coral size data. The benthic assessment survey identified benthic habitats and associated marine resources in vicinity of the proposed project which could be impacted by dredging and dredging related activities. Surveys were conducted from 13 June through 8 July 2016 with additional field surveys conducted from 1 through 13 September 2016 specifically to further document the presence of stony corals in delineated hardbottom habitat. Florida Unified Mitigation Assessment Methodology (UMAM) Forms Part 1 (Qualitative Description) and Part 2 (Quantitative Description) were completed for each habitat type delineated during the assessment survey.

- **Coral Reef Restoration and Coral Relocation – Nearshore Hardbottom Habitat and Offshore Reef Tract Biscayne Bay, Miami-Dade County, Florida.** Mr. Fitzgerald served as chief scientist and project manager while conducting coral relocation activities for the USCG Miami Main Channel Aids to Navigation (ATON) Entrance Range Replacement Project. A preconstruction survey was conducted (May through June 2014) to identify marine resources that may be impacted during construction related activities and to identify and delineate resources for avoidance and potential relocation. The project followed guidelines established in the *Benthic Resource Avoidance, Minimization, and Mitigation Plan* which was approved by Federal (NMFS and USACE) and State (FDEP) agencies under permit No.: SAJ-2011-01261 (NW-ALS). As a requirement of the permit no impacts to submerged or emergent resources will be authorized. Therefore, all corals within the primary construction zone footprint that meet the size thresholds (≥ 5 cm for hard corals and ≥ 10 cm for octocorals) as indicated in the permit were relocated to a designated coral recipient site. Reconnaissance surveys were conducted at 15 sites offshore Virginia Key and Biscayne Bay to locate a recipient site with habitat conducive for optimal coral growth and success. A coral relocation plan was prepared and submitted to FDEP, FWC, Miami-Dade DERM, and USACE. A special activity license was obtained from FWC which provided State and Federal authorization to collect, transport and relocate specific corals identified during the preconstruction survey as required by the environmental permit. Resources targeted during the relocation included stony corals and octocorals. Stony corals included *Acropora cervicornis*, *Montastraea cavernosa, Orbicella annularis*, *O. faveolata*, *Diploria labyrinthiformis, Pseudodiploria clivosa*, and *P. strigosa, Siderastrea siderea, Dichocoenia stokesii* and *Meandrina meandrites*. Coral relocation activities were completed on 7 October 2014. All corals were evaluated using detailed health assessment guidelines prior to and following relocation. Nearly 1000 corals were rescued and reattached during the relocation project. The reattached corals were photographed and mapped to provide a reference for future monitoring. (2012 to 2014)

- **Scientific Data Collection QA/QC for Port of Miami Deep Dredge Project – Miami, Florida.** Mr. Fitzgerald was the Senior Scientist and Dive Safety Officer responsible for providing environmental oversight, quality control and quality assurance for the Port of Miami Deep Dredge Project in Miami-Dade, Florida. Pinnacle's scientific dive team worked cooperatively with a network of marine environmental contractors under the prime leadership of Great Lakes Dock and Dredge (GLDD). Team members established permanent monitoring stations in different habitats occurring along the ship channel, within mitigation reef areas and at reference sites. Team members utilized (DGPS) to identify, delineate and map resources of particular concern and essential fish habitat (EFH). The dredge project included the restoration of more than 16 acres of sea grass in northern Biscayne Bay and the creation of over nine acres of artificial reef. In an effort to minimize impacts to existing resources, the Project's mitigation measures included the relocation of hard coral colonies greater than 10 to 25 cm. Additionally, divers were in the water adjacent to the project to monitor natural resources for turbidity and sedimentation effects before, during and after all dredging activities to ensure the highest environmental protection monitoring protocols

Paul Fitzgerald
Marine Biologist

outside of a national marine sanctuary. Members of Pinnacle's team played a critical role in developing and implementing most of the protocols used for this project during the US Navy's Key West Harbor Dredge Project (2002–2007). Pinnacle's team has successfully relocated over 7500 scleractinian corals, octocorals and sponges. Additionally, Pinnacle has been tasked with ensuring data collected meets the requirements of the environment resource permits and follows critical quality control protocols. (2012 to Present)

- **Benthic Assessment – Miami-Dade County, Florida.** A benthic assessment survey in Biscayne Bay, Florida was conducted to survey the potential habitats that may be impacted as the result of the instillation of a gas pipeline protection system. This ecological survey was conducted to document benthic marine life colonizing the articulated concrete mats installed to protect exposed segments of the Florida Gas Transmission Company 6-inch Miami Beach Lateral natural gas pipeline in Biscayne Bay. The assessment was conducted on 17 and 18 January 2011.

- **Benthic Resources and Seawall Assessment – Miami-Dade County, Florida.** Conducted a benthic assessment and seawall survey at the Fisher Island Boat Slip, located on the north side of Fisher Island along Government Cut and positioned immediately east of the Fisher Island Ferry Landing in Miami-Dade County, Florida. The survey area was conducted in May 2016 and included 0.28 acres of seafloor and 400 linear feet of seawall. Conducted *in situ* identifications of marine resources, delineated, mapped and quantified corals and other marine resources in support of planning and environmental permit requirements. A total of 536 coral colonies (328 scleractinians and 208 octocorals) were mapped and identified during the benthic and encrusting organism surveys. Thirty-two different species were identified, 22 scleractinian species and 10 octocoral species.

- **Oceanographic Instrument Deployment and Data Collection – Broward County, Florida.** Deployed instrumentation both within the Port Everglades (Port) Intracoastal Waterway and at offshore sites south of the Port to collect hydrographic field measurements regarding tides, currents, depth, waves, and velocity. The initial instrument deployment occurred in July 2016 and continued for 30 days. A second set of instruments were deployed from 15 December 2016 to 18 January 2017 at two new stations located north of the Port to collect additional wave data. Instrument data was downloaded, processed, and underwent in house QA/QC. The field measurements will be used in support of model verification for sediment transport. The objective of the numerical model is to understand the fate of suspended sediment from dredge material during the proposed Port Everglades Harbor navigation channel deepening and widening project.

- **Marine Mammal Observer Kings Bay US Naval Submarine Base – Camden County, Georgia.** Mr. Fitzgerald was the senior scientist and project manager performing protected species observer services during marine construction activities at the Kings Bay Naval Submarine Base. Pinnacle's scientists were granted high levels of security clearance for use of specialized monitoring equipment including binoculars and still cameras during monitoring activities. Pinnacle's scientists performed monitoring services with high level of integrity and professional conduct communicating with naval personnel and construction contractors. Pinnacle's scientists performed duties efficiently avoiding and minimize potential project related impacts to marine mammals and other important marine species during proposed construction related activities at Kings Bay. Visual monitoring provided information on the numbers of marine mammals potentially affected by project activity and facilitated mitigation to prevent injuries to marine mammals as a result of activity and sounds. Monitoring was conducted from vessel and shore. Provided general and detailed information to contractor regarding permit requirements and regulations.

- **Seagrass Habitat Restoration – Biscayne Bay Aquatic Preserve, Miami-Dade County, Florida.** Mr. Fitzgerald served as chief scientist and project manager for a comprehensive seagrass habitat restoration project on Brickell Key Shoal in Biscayne Bay, Miami-Dade, Florida. Brickell Key Shoal is located east of Brickell Key and the Intracoastal Waterway (ICWW) within boundary limits of the Biscayne Bay Aquatic Preserve (BBAP). Restoration activities were intended as mitigation for the Florida Gas Transmission (FGT) 6-inch Miami Beach Lateral

Paul Fitzgerald
Marine Biologist

Exposed Pipeline Protection Project that traverses Biscayne Bay from downtown Miami to Miami Beach. The primary objective of the restoration effort was to repair propeller scar injuries occurring in shallow seagrass habitat as partial fulfillment of project environmental resource permits. Propeller scar injuries identified during the original field effort were determined unacceptable for restoration due to in-filling from natural sedimentation, the presence of advanced macroalgal and seagrass growth, and/or failure to relocate previously mapped injuries during restoration field efforts. With authorization from Miami-Dade Department of Regulatory and Economic Resources, Department of Environmental Resource Management, Coastal Division (Miami-Dade DERM) and Florida Department of Environmental Protection (FDEP), Pinnacle's team of scientists successfully met and exceeded permit (Class I Construction Permit: 2011-CLI-PER-00095) requirements by locating and restoring 0.1586 acres (6,908 ft^2) of propeller scar injuries on Brickell Key Shoal. A total of 0.055 acres (2,377 ft^2) of the restored propeller scar injuries measured 20 cm (8 inches) or greater in depth. Bird stakes were installed according to seagrass restoration guidelines approved by National Oceanic and Atmospheric Association (NOAA)/ Florida Keys National Marine Sanctuary (FKNMS) (Fonseca et al. 1998; Kenworthy et al. 2000). Restored propeller scar injuries were thoroughly documented and mapped following restoration completion. Restoration was conducted in two phases, Phase I which involved restoration planning and Phase II which included restoration implementation. Phase II activities were initiated following the Notice to Proceed (NTP) on 3 September 2014. Restoration activities involving field deployment and installation were conducted from 4 November to 21 December 2014.

- **Benthic Assessment – Miami-Dade County, Florida.** Conducted preconstruction assessment surveys and utilized specialized underwater equipment, video and still photographic instruments to provide data on marine resources. This assessment survey was conducted from May to June 2014 to support permit requirements associated with the replacement of four Aids to Navigation (ATON) entrance ranges along the Miami Ship Channel. The purpose of the preconstruction survey was to identify marine resources that may be impacted during construction related activities and to identify and delineate resources for avoidance and potential relocation. Environmental assessment surveys included collection of quantitative data of marine resources including hard corals, soft corals, and seagrasses.

- **Coral Relocation Monitoring – Miami-Dade County, Florida.** Completed the First Post-Construction Coral Relocation Monitoring in association with the Miami Main and Government Cut Entrance Channel ATON Replacement Project (Project Number: 4666018). Pinnacle completed coral relocation and baseline monitoring in October 2014, as outlined in the project permit (Pinnacle, 2015). Aided in producing a Scientific Dive Plan detailing the monitoring project's scientific and operational activities, risks associated with these activities, and procedures implemented to avoid and/or minimize such risks. Field monitoring was initiated on 14 November and completed on 1 December 2016. One hundred and twenty-nine relocated coral colonies and 49 reference corals were tagged for monitoring. Tagged corals included a total of 22 different species of relocated corals (15 scleractinian and seven (7) octocoral). Monitoring data including: coral location, colony size, percent of live tissue, overall health, and attachment success (attached, loose, or missing) was recorded for each of the tagged corals. Photographs were collected of each tagged colony in plan-view, oblique angle, and side-view.

- **Beach Nourishment Hardbottom Monitoring – Broward County, Florida.** Completed biological monitoring associated with the 2015 Hillsboro/Deerfield Beach Nourishment Project. The monitoring effort was performed in partial fulfillment of project permits (Florida Department of Environmental Protection (FDEP) Permit Number 0289706-006-JN; US Army Corps of Engineers (USACE) Permit Number SAJ-1997-02355(MOD-LCK); and Broward County Environmental and Growth Protection Permit Number DF-14-01082). The westernmost edge of nearshore hardbottom habitat was mapped from 0.35 miles north of the Deerfield Beach International Fishing Pier (Pier) to 2.3 miles south of the Pier. Additional data collected included: sediment depth measurements, sediment coverage documentation, video documentation of marine resources, and percent cover of benthic macroinvertebrate and macroalgal communities along previously established shore perpendicular transects in and adjacent to the project area. Field activities were conducted from 19 August 2016 through 19 September 2016.

Monitoring data was used to complete the 2016 Year 1 Post-Construction Survey report with comparisons to the results from the 2014 and 2015 Pre- and Post-Construction Surveys. Used a variety on parametric and non-parametric statistical analyses to examine the relationship between results from the current (2016) and baseline (2014) surveys.

- **Emergency Coral Reef Restoration – Dry Tortugas National Park, Monroe County, Florida.** Mr. Fitzgerald served as chief scientist and project manager for an emergency restoration of a vessel grounding site at the Dry Tortugas National Park from 4 to 11 May 2011. The objective of this emergency restoration was to conduct biological triage/restoration for corals and other marine resources that were at risk of mortality and/or loss as a result of the vessel grounding. Pinnacle's coral restoration biologists worked with NPS biologists to identify and locate injured resources and potential reattachment sites for loose and damaged corals. Resources targeted during the emergency restoration included stony corals and octocorals. Stony corals included Acropora cervicornis, A. prolifera, Montastraea annularis, M. faveolata, Diploria clivosa, and D. strigosa. When possible, corals were reattached to exposed hard bottom located directly in the delineated injured areas or in the event that injured corals were recovered from areas with unconsolidated substrate, the corals were relocated to hard bottom substrate adjacent to the injured areas. Some corals were large and immovable and were therefore repaired in-place without relocating. Nearly 200 corals were rescued and reattached during the emergency restoration. The reattached corals were photographed and mapped to provide a reference for future monitoring of the grounding site.

- **Coral Reef Restoration – Palm Beach County, Florida.** Mr. Fitzgerald conducted a coral reef damage assessment and rehabilitation project on Breakers Reef off Palm Beach County, Florida, January 2009. Reattached and re-stabilized corals and coral fragments dislodged during an apparent cable dragging incident. Approximately 200 corals that were dislodged during the cable dragging incident were collected and reattached on the Breakers Reef restoration site. (Palm Beach County, Department of Environmental Resources Management, 2009).

- **Damage Assessment, Coral Transplantation and Resource Monitoring – Key West, Florida.** Mr. Fitzgerald served as chief field scientist and conducted coral reef damage assessment and coral transplantation in conjunction with the maintenance dredging of Truman Harbor and the Main Ship Channel in Key West, Florida. Worked directly with Florida Keys National Marine Sanctuary personnel to remove, relocate, and transplant corals growing on harbor walls and pilings during construction activities. Over 3,000 corals were relocated during the construction activities. Supervised and conducted the field operations for a comprehensive resource health and impacts monitoring program to prevent and assess impacts to sensitive Sanctuary resources during the course of dredging activities.

- **Coral Reef Damage Assessment and Reconstruction – Guayanilla Bay, Puerto Rico.** Mr. Fitzgerald conducted coral reef damage assessment, reef framework reconstruction, and coral reattachment in conjunction with the M/T Margara grounding off Guayanilla Bay, Puerto Rico. The 2007 storm season heavily eroded the previously impacted reef framework in the vicinity of the grounding site. Dislodged corals were collected and reattached in large clusters providing protection from future storms. Over 1,000 corrals were rescued and reattached.

- **Coral Reef Reconstruction – Newfound Harbor, Monroe County, Florida.** Mr. Fitzgerald conducted a coral reef rehabilitation project in Newfound Harbor Key Sanctuary Preservation Area (SPA) from 19 to 27 May 2003. Reattached and re-stabilized corals and coral fragments from multiple vessel groundings. Enhanced the habitat quality and increased the structural complexity of the previous restoration structures (coral rings) located at the Bateau Duhe vessel grounding site in Newfound Harbor Key SPA. Approximately 200 corals that were dislodged during multiple vessel groundings were collected and reattached at the Bateau Duhe restoration site in water depths of 2 to 4 m.

Randi Shiplett
Marine Biologist

EDUCATION

- Master of Science, Marine Sciences, University of South Alabama, 2011.
- Bachelor of Science, Biology, Wittenberg University, 2004.

CERTIFICATIONS

- Open Water, PADI (2016)

RELEVANT PUBLICATIONS

- Criales, M.M., R.M.Shiplett, N. Thompson, and K.A. Kulpa. 2017. Abundance and Distribution of Planktonic Decapods in the Northern Gulf of Mexico Before and After the Deepwater Horizon Oil Spill. Bulletin of Marine Science 93(2): 829-856.

- Shiplett, R.M. 2011. Selective Feeding and Ichthyoplankton Predation by Scyphomedusae in the Northern Gulf of Mexico. Master's thesis, University of South Alabama, Mobile, Alabama.

% AVAILABILITY

52 percent

PROFESSIONAL PROFILE

Randi Shiplett is an experienced biologist who has worked on projects in the field both locally and in the Gulf of Mexico. Ms. Shiplett has a skill set which includes the ability to design and carry out research projects, analyze complex data, produce scientific reports, and has extensive laboratory and field experience. Ms. Shiplett has over 8 years of experience working with zooplankton communities in the Gulf of Mexico. Her experience includes zooplankton and ichthyoplankton sample collection and processing, identification of zooplankton, and larval decapod taxonomy. In 2011 she obtained her Master of Science in Marine Sciences from the University of South Alabama, her thesis work focused on selective predation and species-specific ichthyoplankton predation by scyphomedusae in the northern Gulf of Mexico. Additionally, she has participated in a multitude of other environmental projects. Ms. Shiplett has experience with bottom habitat surveys, seagrass restoration, water quality monitoring, gill netting, trawling, long-lining, siene netting, oyster reef restoration, aerial surveys, as well as benthic and oceanographic sampling. While in graduate school she volunteered on the winter plankton survey, a 20-day oceanographic cruise, part of the ongoing NOAA SEAMAP project. She has experience organizing and collecting data using complex global positioning systems and data management software. On top of her field experience, Ms. Shiplett has over 10 years of experience working in a laboratory setting. In addition to the previously listed laboratory skills; she has experience with DNA extraction and purification, PCR, RT-PCR, and benthic macrofauna identification. As graduate student she was the teaching assistant for a number of undergraduate courses including; Introduction to Oceanography, Coral Reef Ecology, Marine Geology, and Marine Biology.

Randi Shiplett
Marine Biologist

EXPERIENCE

- **2015 to Present: Pinnacle Ecological – Marine Biologist.** Experience working on several projects in the south Florida area which focus on bottom habitat monitoring, ecology and restoration. Conducts benthic assessments of marine resources and essential seagrass habitats for various projects. Monitors the success and ecological changes in seagrass and coral restoration habitats. Experience collecting underwater photographic, video, and quantitative data for a multitude of projects. Other duties include data and statistical analysis, proposal and report writing, and identification and monitoring of benthic species and macrofauna.

- **2012 to 2015: University of Miami, Rosenstiel School of Marine and Atmospheric Science – Research Associate 1**. Conducted research for the Deepwater Horizon Oil Spill Project. Sorting and taxonomic identification of larval decapods sampled from the Gulf of Mexico, including QA/QC of identifications for samples processed at other laboratories. Other duties included data entry and verification, as well as data management, and generation of reports and chain of custody paperwork.

- **2012: Pinnacle Ecological – Marine Biologist.** Major duties as listed above for Pinnacle Ecological.

- **2006-2007 and 2008-2011: Dauphin Island Sea Lab, University of South Alabama – Graduate Research Assistant.** Worked for Master's advisor on ongoing lab projects focusing on zooplankton sample collection, processing, and identification for the Fisheries Oceanography of Coastal Alabama project. QA/QC of zooplankton identification, supervising and instructing others on lab procedures, data entry, and various field-sampling events.

- **2007 and 2008: Dauphin Island Sea Lab – Teaching Assistant.** Summer School teaching assistant for undergraduate courses taught at DISL, including Introduction to Oceanography, Marine Geology, Coral Reef Ecology, and Marine Biology. Set up laboratory experiments, conducted various field sampling trips, graded student laboratory reports and homework assignments, in addition to assisting professors during classroom sessions.

- **2006: Dauphin Island Sea Lab – Teaching Assistant.** Academic year teaching assistant for graduate courses taught at DISL. Assisted all teaching professors in obtaining necessary class supplies.

- **2005 to 2006: Dauphin Island Sea Lab – Laboratory Technician.** Zooplankton and benthic sample collection, processing, and identification for the Compass Port Project. Additional, sample collection and processing for various lab and graduate student projects, including seagrass surveys and sampling, oyster reef ecosystem services and restoration, and benthic organism identification.

- **2004 to 2005: Dauphin Island Sea Lab - Intern.** Major duties as listed above for laboratory technician at the Dauphin Island Sea Lab.

Randi Shiplett
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RELEVANT PROJECT EXPERIENCE

- **Benthic Assessment and Resource Survey – Palm Beach County, Florida.** Conducted a benthic assessment and resource survey in support of permit requirements associated with potential marina improvements and deepening dredge activities in the City of Riviera Beach Marina's South Basin and an area between the current marina footprint and the Intracoastal Waterway (ICWW). The objective of the benthic assessment and resource survey was to delineate and map benthic habitats in the survey area including seagrass and hardbottom, and to identify and quantify resources occurring in these habitats. The benthic assessment survey identified benthic habitats and associated marine resources in vicinity of the proposed project which could be impacted by dredging and dredging related activities. Multiple surveys of the area were conducted from September 2016 to January 2017.

- **Environmental Reconnaissance Survey – Palm Beach County, Florida.** Completed an environmental reconnaissance survey in a portion of the ICWW located south of Lake Wyman, and north of Lake Boca Raton, in Boca Raton, Florida. The survey occurred on 12 January 2017, and was conducted in support of a Feasibility Study to determine the presence and identification of seagrasses and hardbottom resources occurring in the area. The survey area included the property's bulkhead and an area that extended out 100 feet toward the ICWW; a total of 260 feet of the bulkhead/property line was surveyed. Seagrasses, hardbottom habitats, and stony corals observed within the survey area were identified and mapped.

- **Coral Relocation Monitoring – Miami-Dade County, Florida.** Completed the First Post-Construction Coral Relocation Monitoring in association with the Miami Main and Government Cut Entrance Channel ATON Replacement Project (Project Number: 4666018). Pinnacle completed coral relocation and baseline monitoring in October 2014, as outlined in the project permit (Pinnacle, 2015). Aided in producing a Scientific Dive Plan detailing the monitoring project's scientific and operational activities, risks associated with these activities, and procedures implemented to avoid and/or minimize such risks. Field monitoring was initiated on 14 November and completed on 1 December 2016. One hundred and twenty-nine relocated coral colonies and 49 reference corals were tagged for monitoring. Tagged corals included a total of 22 different species of relocated corals (15 scleractinian and seven (7) octocoral). Monitoring data including: coral location, colony size, percent of live tissue, overall health, and attachment success (attached, loose, or missing) was recorded for each of the tagged corals. Photographs were collected of each tagged colony in plan-view, oblique angle, and side-view.

- **Beach Nourishment Hardbottom Monitoring – Broward County, Florida.** Completed biological monitoring associated with the 2015 Hillsboro/Deerfield Beach Nourishment Project. The monitoring effort was performed in partial fulfillment of project permits (Florida Department of Environmental Protection (FDEP) Permit Number 0289706-006-JN; US Army Corps of Engineers (USACE) Permit Number SAJ-1997-02355(MOD-LCK); and Broward County Environmental and Growth Protection Permit Number DF-14-01082). The westernmost edge of nearshore hardbottom habitat was mapped from 0.35 miles north of the Deerfield Beach International Fishing Pier (Pier) to 2.3 miles south of the Pier. Additional data collected included: sediment depth measurements, sediment coverage documentation, video documentation of marine resources, and percent cover of benthic macroinvertebrate and macroalgal communities along previously established shore perpendicular transects in and adjacent to the project area. Field activities were conducted from 19 August 2016 through 19 September 2016. Monitoring data was used to complete the 2016 Year 1 Post-Construction Survey report with comparisons to the results from the 2014 and 2015 Pre- and Post-Construction Surveys. Used a variety on parametric and non-parametric statistical analyses to examine the relationship between results from the current (2016) and baseline (2014) surveys.

Randi Shiplett
Marine Biologist

- **Environmental Reconnaissance Survey – Broward County, Florida.** Completed an environmental reconnaissance survey in Sunrise Bay near Coral Ridge Yacht Club in Fort Lauderdale, Florida on 27 May 2016. The survey was conducted in support of a Feasibility Study to determine the presence and identification of seagrasses and other important marine resources occurring in Sunrise Bay located north of Coral Ridge Yacht Club. Seagrasses resources were identified and mapped. General observations regarding seagrass density and substrate types were also noted.

- **Habitat Characterization and Mapping – Palm Beach County, Florida.** Characterized and mapped seagrass and hard bottom habitat located in Lake Worth Lagoon. This assessment survey was conducted in support of a pre-dredging permit for the Florida Inland Navigational District. The objective of the benthic assessment and resource survey was to delineate and map benthic habitats throughout the entire survey area including seagrass and hardbottom habitats, to identify and quantify resources occurring in these habitats, and to collect stony coral size data. The benthic assessment survey identified benthic habitats and associated marine resources in vicinity of the proposed project which could be impacted by dredging and dredging related activities. Surveys were conducted from 13 June through 8 July 2016 with additional field surveys conducted from 1 through 13 September 2016 specifically to further document the presence of stony corals in delineated hardbottom habitat. Florida Unified Mitigation Assessment Methodology (UMAM) Forms Part 1 (Qualitative Description) and Part 2 (Quantitative Description) were completed for each habitat type delineated during the assessment survey.

- **Oceanographic Instrument Deployment and Data Collection – Broward County, Florida.** Deployed instrumentation both within the Port Everglades (Port) Intracoastal Waterway and at offshore sites south of the Port to collect hydrographic field measurements regarding tides, currents, depth, waves, and velocity. The initial instrument deployment occurred in July 2016 and continued for 30 days. A second set of instruments were deployed from 15 December 2016 to 18 January 2017 at two new stations located north of the Port to collect additional wave data. Instrument data was downloaded, processed, and underwent in house QA/QC. The field measurements will be used in support of model verification for sediment transport. The objective of the numerical model is to understand the fate of suspended sediment from dredge material during the proposed Port Everglades Harbor navigation channel deepening and widening project.

- **Benthic Resources and Seawall Assessment – Miami-Dade County, Florida.** Conducted a benthic assessment and seawall survey at the Fisher Island Boat Slip, located on the north side of Fisher Island along Government Cut and positioned immediately east of the Fisher Island Ferry Landing in Miami-Dade County, Florida. The survey area was conducted in May 2016 and included 0.28 acres of seafloor and 400 linear feet of seawall. Conducted *in situ* identifications of marine resources, delineated, mapped and quantified corals and other marine resources in support of planning and environmental permit requirements. A total of 536 coral colonies (328 scleractinians and 208 octocorals) were mapped and identified during the benthic and encrusting organism surveys. Thirty-two different species were identified, 22 scleractinian species and 10 octocoral species.

- **Concrete Debris Survey – Broward, County, Florida.** Collected data to map concrete debris in the area. This survey was conducted in February 2016 to support permit requirements and provide supporting data for the UMAM and mitigation plan, associated with the instillation of a rock revetment and floating dock at Hugh Taylor Birch State Park. The purpose of the concrete debris survey was to map concrete pile debris in the area to determine an approximate area of coverage and identify select areas to target for debris removal. The survey included collection of quantitative data of marine debris, water visibility, and marine mammal observations. The results of the concrete debris survey and an earlier seagrass assessment survey (Pinnacle, 2015) were used to complete a Florida UMAM, and develop Seagrass Mitigation and Monitoring Plans.

Randi Shiplett
Marine Biologist

- **Impact Assessment Survey and Seagrass Restoration – Islamorada, Florida.** Conducted seagrass and impact assessment survey utilizing specialized underwater equipment, video and still photographic instruments to provide qualitative and quantitative data on marine resources. This impact assessment survey was conducted in October and November 2015 in order to assess the damage to the local seagrass habitat caused by a vessel grounding. Detailed mapping of the propeller scars; along with comparisons between the impacted segrasses and the surrounding unimpacted area, were conducted. Environmental assessment surveys included collection of quantitative data of marine resources including seagrasses, marcoalgae, and marine invertebrates. Pinnacle completed a Restoration Plan for the repair of injuries to the seagrass habitat, which is located within the boundaries of the Florida Keys National Marine Sanctuary (FKNMS). The restoration plan was approved by the FKNMS (30 June 2016), and under USACE Permit No: SAJ-2016-01346 (SP-MIB) (10 November 2016). Restoration activities are planned to begin in early 2017.

- **Invasive Species Removal – Palm Beach County, Florida.** Completed habitat maintenance and invasive species removal of the living shoreline at Leisure Lake, Boynton Beach Florida. Invasive exotics were initially treated on December of 2014 and remaining exotics and habitat maintenance was completed 16 January 2015. Vegetative and invasive growth was monitored and treated as necessary. Initiated a monthly water monitoring program to ensure the lakes continued success along with exotic species removal, and transplanting of native plants, through summer 2016.

- **Seagrass Restoration Monitoring – Miami-Dade County, Florida.** Participated in ongoing monitoring events for a seagrass restoration project located on Brickell Shoal in Biscayne Bay, Florida. Pinnacle used biodegradable cotton bags filled with sediment to restore seagrass injuries from propeller scars to physical and biological conditions of surrounding habitat. Pinnacle developed a restoration plan to provide a guideline/tool for the Florida Gas Transmission, resource managers, Pinnacle scientists and other restoration staff to effectively and efficiently restore seagrass habitat to minimize lost interim ecological services from the time of injury until the return of baseline conditions.

- **Benthic Assessment and Seagrass Survey - Miami-Dade County, Florida.** Conducted preconstruction assessment surveys and utilized specialized underwater equipment, video and still photographic instruments to provide data on marine resources. This assessment survey was conducted from September to October 2015 to support permit requirements associated with a marina redevelopment project at Turnberry Isle Marina and Yacht Club. The purpose of the preconstruction survey was to identify marine resources that may be impacted during construction related activities and to identify and delineate resources for avoidance and potential relocation. Environmental assessment surveys included collection of data on seagrasses and mangrove delineation.

- **Benthic Assessment and Seagrass Survey – Miami-Dade County, Florida.** Aided with analysis and report writing for data collected during a seagrass assessment survey. This assessment survey was conducted from June to July 2015 to support permit requirements associated with the instillation of a rock revetment and floating dock at Jockey Club Marina. The purpose of the preconstruction survey was to identify marine resources that may be impacted during construction related activities and to identify and delineate resources for avoidance and potential relocation. Data analysis included mapping of marine resources including hard corals, soft corals, and seagrasses, and determining seagrass density and percent cover.

- **Benthic Assessment – Palm Beach County, Florida.** Characterized and mapped seagrass habitat located in a protected portion of south Lake Worth Lagoon. This assessment survey was conducted from July to August 2012 and in support of a proposed marina development project. The purpose of this study was to survey the lagoon bottom in vicinity of the proposed construction project and document any associated seagrasses, particularly Johnson's seagrass (*Halophila johnsonii*) which could be impacted by the footprint of the proposed dock extension or any construction related activities. The survey was conducted in two phases in accordance

with recommendations by the National Marine Fisheries Service (2002) recovery plan for Johnson's Seagrass. The first phase was conducted to delineate, identify and map existing seagrass beds in vicinity of the study area. The second phase was used to determine seagrass densities using quantitative sampling methods including Braun-Blanquet (1932) and shoot densities (shoots/m²). Species of special concern also were monitored during the survey.

- **Benthic Assessment – Holly Hill, Volusia County, Florida.** A benthic assessment survey adjacent to the Marina Grand on the Halifax (Marina Grande) development site in Holly Hill, Florida was conducted to survey the river bottom. The purpose of the assessment was to document any resources, particularly seagrass beds, which could be impacted by construction related activities. This assessment survey was conducted over a three day period from 20-22 August 2012, and was conducted under the guidelines as set forth by the National Marine Fisheries Service (NMFS), USACE, FDEP for seagrass assessments. No seagrasses were observed, however, mussel beds and oyster reef habitat was identified and mapped within the survey area.

Francesca Fourney
Marine Biologist

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EDUCATION
- Master of Science, Marine Biology, Nova Southeastern University, 2015.
- Bachelor of Science, Marine Biology, Nova Southeastern University, 2013.

CERTIFICATIONS
- Divemaster #350932, PADI (2015)
- Nitrox Diver & Gas Blender, PADI (2014, 2016)
- Visual Scuba Cylinder Inspector, PSI/PCI (2015)
- EFR, PADI (2015)
- Oxygen First Aid, PADI (2013)
- Florida Master Naturalist, UF (2010)

RELEVANT PUBLICATIONS
- In preparation

% AVAILABILITY
48 percent

PROFESSIONAL PROFILE

Francesca Fourney is an experienced biologist who has worked on projects in the field both locally and abroad. Ms. Fourney has a skill set which includes the ability to design and carry out research projects, analyze complex data, produce scientific reports, and has extensive laboratory and field experience. Ms. Fourney has over 5 years of experience working in coral reef ecology and research. Her experience includes coral identification and aggregation descriptions, coral collections and relocations, coral reproduction with larvae and juvenile rearing in a laboratory setting, as well as knowledge of sedimentation and climate change effects on coral reefs. In 2015 she obtained her Master of Science in Marine Biology from Nova Southeastern University, her thesis work explored the synergistic effects of sedimentation and ocean warming on newly settled coral juveniles to determine if corals would be better able to cope with increasing temperatures if the levels of a local stressor that compromises energy acquisition (sedimentation) were reduced. Additionally, she has participated in a multitude of other environmental projects abroad including travel studies to the Galapagos Islands and Belize, along with interning for a sea turtle project in Costa Rica. Ms. Fourney has experience with benthic habitat surveys, water quality monitoring, aquaria maintenance, working as a PADI professional and AAUS scientific diving. She has experience organizing and collecting data using complex global positioning systems and data management software. As an undergraduate she participated in an NSF funded geological research of mesophotic reefs utilizing Photoshop, Illustrator and Image J for image analysis. Ms. Fourney also took it upon herself to conduct an independent study during her senior year of undergrad, describing and analyzing coral aggregations in the Galapagos Islands utilizing CPCe software for data analysis. More recently, Ms. Fourney had the opportunity to present her master's thesis research findings at the International Coral Reef Symposium in Hawaii, June 2016.

Francesca Fourney
Marine Biologist

EXPERIENCE

- **2016 to Present: Pinnacle Ecological – Marine Biologist.** Experience working on several projects in the south Florida area which focus on bottom habitat monitoring, ecology and restoration. Conducts benthic assessments of marine resources and essential seagrass habitats for various projects. Monitors the success and ecological changes in seagrass and coral restoration habitats. Experience mapping, and identifying corals to species in the field. Experience collecting underwater photographic, video, and quantitative data for a multitude of projects. Other duties include data and statistical analysis, proposal and report writing, and identification and monitoring of benthic species and macrofauna.
- **2014 to 2016: Nova Southeastern University – Graduate Research Assistant.** Conducted research assessing if coral juveniles could cope with climate change when a local stressor (sedimentation) is reduced. Acquired laboratory and field based experience on coral reefs. Obtained extensive knowledge on coral reef ecology and threats of climate change and ocean acidification. Conducted AAUS Scientific Research SCUBA Diving. Successfully maintained coral juveniles in aquaria for 6 months for a NOAA CRCP Project (funding: NOAA, Batchelor Foundation "Bright and Brightest" Scholarship, & NSU Faculty Research and Development Grant). Heavily researched peer reviewed articles, analyzed data using R software, wrote laboratory reports and orally presented research findings (International Coral Reef Symposium, Hawaii June 2016): publication in preparation.
- **2015: Nova Southeastern University – Ecology of the Belize Barrier Reef Travel Study.** Gained extensive knowledge of the Belize Barrier Reef ecosystem and native flora and fauna through research, hands on experience, and field work. Activities included: research of peer reviewed articles, extensive snorkeling, SCUBA diving, underwater mapping and navigation, boat travel, identification of marine and terrestrial flora and fauna, photography. Produced deliverables including scientific reports and presentations and maps.
- **2015: Coral Restoration Foundation – Volunteer Diver.** Assist in the maintenance of CRF offshore coral nurseries – cleaning of nursery sites, attaching coral fragments (*Acropora cervicornis*) to "coral trees" underwater. Assist in out-planting corals to designated restoration sites in the Upper Keys – using hammers/chisels and epoxy to attach larger coral fragments to the natural reef.
- **2013 to 2015: Lauderdale Diver – PADI Divemaster & Sales Associate.** Conducted PADI Divemaster qualified courses as a PADI Professional. Book dive trips with knowledge of local dive sites and weather conditions. Organize equipment servicing for the general public and motor yacht industry. Conduct Visual Inspections on various cylinder types to PSI/PCI standards.
- **2013: Wider Caribbean Sea Turtle Network (Costa Rica) – Field Intern**. Conducted in-water sea turtle monitoring on a vessel 7 hours per day. Encountered and captured wild Green and Hawksbill Sea Turtles, tagged, recorded biometric data, took tissue and blood samples. Maintained daily husbandry at the rescue center including: medical treatments, feeding protocols, water changes, and inducing environmental enrichment.
- **2012 to 2013: Nova Southeastern University – Senior Year Independent Study.** Researched and described Galapagos branching coral aggregations in association with the Living Oceans Foundation. Operated Coral Point Count with Excel Extensions software to analyze data. Orally presented research poster at NSU Undergraduate Student Symposium (April 2013).
- **2012: University of Miami – Laboratory Intern.** Participated in an NSF funded geological research of mesophotic coral reef sedimentology. Processed, documented, and utilized image analysis software on the bioerosion of mesophotic coral rubble and substrates.
- **2011: Nova Southeastern University – Ecology of the Galapagos Islands Travel Study.** Gained extensive knowledge of the Galapagos archipelago and native flora and fauna through research, hands on experience, and field work. Activities included: research of peer reviewed articles, extensive snorkeling, SCUBA diving, horseback riding, hiking, extensive boat travel, identification of marine and terrestrial flora and fauna, & photography. Produced deliverables including scientific reports and presentations.

Francesca Fourney
Marine Biologist

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RELEVANT PROJECT EXPERIENCE

- **Benthic Assessment and Resource Survey – Palm Beach County, Florida.** Conducted a benthic assessment and resource survey in support of permit requirements associated with potential marina improvements and deepening dredge activities in the City of Riviera Beach Marina's South Basin and an area between the current marina footprint and the Intracoastal Waterway (ICWW). The objective of the benthic assessment and resource survey was to delineate and map benthic habitats in the survey area including seagrass and hardbottom, and to identify and quantify resources occurring in these habitats. The benthic assessment survey identified benthic habitats and associated marine resources in vicinity of the proposed project which could be impacted by dredging and dredging related activities. Multiple surveys of the area were conducted from September 2016 to January 2017.

- **Environmental Reconnaissance Survey – Palm Beach County, Florida.** Completed an environmental reconnaissance survey in a portion of the ICWW located south of Lake Wyman, and north of Lake Boca Raton, in Boca Raton, Florida. The survey occurred on 12 January 2017, and was conducted in support of a Feasibility Study to determine the presence and identification of seagrasses and hardbottom resources occurring in the area. The survey area included the property's bulkhead and an area that extended out 100 feet toward the ICWW; a total of 260 feet of the bulkhead/property line was surveyed. Seagrasses, hardbottom habitats, and stony corals observed within the survey area were identified and mapped.

- **Coral Relocation Monitoring – Miami-Dade County, Florida.** Completed the First Post-Construction Coral Relocation Monitoring in association with the Miami Main and Government Cut Entrance Channel ATON Replacement Project (Project Number: 4666018). Pinnacle completed coral relocation and baseline monitoring in October 2014, as outlined in the project permit (Pinnacle, 2015). Aided in producing a Scientific Dive Plan detailing the monitoring project's scientific and operational activities, risks associated with these activities, and procedures implemented to avoid and/or minimize such risks. Field monitoring was initiated on 14 November and completed on 1 December 2016. One hundred and twenty-nine relocated coral colonies and 49 reference corals were tagged for monitoring. Tagged corals included a total of 22 different species of relocated corals (15 scleractinian and seven (7) octocoral). Monitoring data including: coral location, colony size, percent of live tissue, overall health, and attachment success (attached, loose, or missing) was recorded for each of the tagged corals. Photographs were collected of each tagged colony in plan-view, oblique angle, and side-view.

- **Beach Nourishment Hardbottom Monitoring – Broward County, Florida.** Completed biological monitoring associated with the 2015 Hillsboro/Deerfield Beach Nourishment Project. The monitoring effort was performed in partial fulfillment of project permits (Florida Department of Environmental Protection (FDEP) Permit Number 0289706-006-JN; US Army Corps of Engineers (USACE) Permit Number SAJ-1997-02355(MOD-LCK); and Broward County Environmental and Growth Protection Permit Number DF-14-01082). The westernmost edge of nearshore hardbottom habitat was mapped from 0.35 miles north of the Deerfield Beach International Fishing Pier (Pier) to 2.3 miles south of the Pier. Additional data collected included: sediment depth measurements, sediment coverage documentation, video documentation of marine resources, and percent cover of benthic macroinvertebrate and macroalgal communities along previously established shore perpendicular transects in and adjacent to the project area. Field activities were conducted from 19 August 2016 through 19 September 2016. Monitoring data was used to complete the 2016 Year 1 Post-Construction Survey report with comparisons to the results from the 2014 and 2015 Pre- and Post-Construction Surveys. Used a variety on parametric and non-parametric statistical analyses to examine the relationship between results from the current (2016) and baseline (2014) surveys.

- **Oceanographic Instrument Deployment and Data Collection – Broward County, Florida.** Deployed instrumentation both within the Port Everglades (Port) Intracoastal Waterway and at offshore sites south of the Port to collect hydrographic field measurements regarding tides, currents, depth, waves, and velocity. The initial instrument deployment occurred in July 2016 and continued for 30 days. A second set of instruments were deployed from 15 December 2016 to 18 January 2017 at two new stations located north of the Port to collect additional wave data. Instrument data was downloaded, processed, and underwent in house QA/QC. The field measurements will be used in support of model verification for sediment transport. The objective of the numerical model is to understand the fate of suspended sediment from dredge material during the proposed Port Everglades Harbor navigation channel deepening and widening project.

- **Habitat Characterization and Mapping – Palm Beach County, Florida.** Characterized and mapped seagrass and hard bottom habitat located in Lake Worth Lagoon. This assessment survey was conducted in support of a pre-dredging permit for the Florida Inland Navigational District. The objective of the benthic assessment and resource survey was to delineate and map benthic habitats throughout the entire survey area including seagrass and hardbottom habitats, to identify and quantify resources occurring in these habitats, and to collect stony coral size data. The benthic assessment survey identified benthic habitats and associated marine resources in vicinity of the proposed project which could be impacted by dredging and dredging related activities. Surveys were conducted from 13 June through 8 July 2016 with additional field surveys conducted from 1 through 13 September 2016 specifically to further document the presence of stony corals in delineated hardbottom habitat. Florida Unified Mitigation Assessment Methodology (UMAM) Forms Part 1 (Qualitative Description) and Part 2 (Quantitative Description) were completed for each habitat type delineated during the assessment survey.

- **Benthic Resources and Seawall Assessment – Miami-Dade County, Florida.** Conducted a benthic assessment and seawall survey at the Fisher Island Boat Slip, located on the north side of Fisher Island along Government Cut and positioned immediately east of the Fisher Island Ferry Landing in Miami-Dade County, Florida. The survey area was conducted in May 2016 and included 0.28 acres of seafloor and 400 linear feet of seawall. Conducted *in situ* identifications of marine resources, delineated, mapped and quantified corals and other marine resources in support of planning and environmental permit requirements. A total of 536 coral colonies (328 scleractinians and 208 octocorals) were mapped and identified during the benthic and encrusting organism surveys. Thirty-two different species were identified, 22 scleractinian species and 10 octocoral species.

- **Invasive Species Removal – Palm Beach County, Florida.** Completed habitat maintenance and invasive species removal of the living shoreline at Leisure Lake, Boynton Beach Florida. Invasive exotics were initially treated on December of 2014 and remaining exotics and habitat maintenance was completed 16 January 2015. Vegetative and invasive growth was monitored and treated as necessary. Initiated a monthly water monitoring program to ensure the lakes continued success along with exotic species removal, and transplanting of native plants, through summer 2016.

ATTACHMENT B

EXHIBITS –PROJECTS FOR SIMILAR SERVICES

Coastal and Oceanic Biological Monitoring and Reef Mapping For Beach Nourishment
Hillsboro and Deerfield Beach, Florida –
August, 2016 – Present

Pinnacle was contracted as the environmental science consultant to conduct Biological Monitoring associated with a Beach Nourishment Project at Hillsboro Beach and Deerfield Beach, Florida. The monitoring effort was performed in partial fulfillment of project permits (FDEP File Number 0289706-006-JN; USACE File Number SAJ-1997-02355(MOD-LCK); and Broward County EPGMD File Number DF-14-01082). The objective of biological monitoring was to assess the general performance of the 2015 beach fill project, identify any adverse effects that may have occurred to nearshore hardbottom habitat as a result of the project, and identify the need for adjustments, modifications or mitigative responses that may be required to avoid and/or minimize further project related impacts. Pinnacle employed best management practices established by FDEP, USACE and Broward County in fulfillment of environmental permits and the project's Biological Monitoring Plan. All survey activities and deliverables were conducted in accordance with the latest update of the FDEP Bureau of Beaches and Coastal Systems (BBCS) Monitoring Standards for Beach Erosion Control Projects, Section 01000 – Beach Profile Topographic Surveying and Section 01100 – Offshore Profile Topographic Surveying and Standard Operation Procedures for Nearshore Hardbottom Monitoring of Beach Nourishment Projects (Kosmynin et al., 2016) and directly coordinated with FDEP staff. The project required detailed GIS mapping of nearshore hardbottom habitat and *in situ* taxonomic identification of associated resources including: reef fish, macroalgae, scleractinia, octocorals, sponges, crustaceans, echinoderms, other invertebrates, and ESA listed species. Benthic coverage data was collected using the quadrat based Benthic Ecological Assessment for Marginal Reefs (BEAMR) method (Lybolt and Baron, 2006). BEAMR data was collected at previously determined locations along each transect using a 1-meter^2 quadrat. BEAMR data collection included: maximum hardbottom relief, sediment depth, and percent cover of sessile benthos within each quadrat. Additional data collected included: sediment depth measurements, sediment coverage documentation, video documentation of marine resources and percent cover of benthic macroinvertebrate and macroalgal communities along shore perpendicular transects in and adjacent to the project area.

A combination of parametric and non-parametric tests were performed to assess significance in observed trends between the current (2016), baseline (2015), and historical survey data (2011 – 2015). Statistical significance was determined at $\alpha = 0.05$ (95% confidence interval), and all means was reported with standard deviation. Parametric Statistics included paired t-tests comparing means. Non-parametric tests were conducted using PRIMER-E v6 (Clark and Gorley, 2006) and included the following: Cluster Analysis with Similarity Profile (SIMPROF), nMDS Ordination (two-dimensional), Analysis of Similarity (ANOSIM), and Similarity of Percentage (SIMPER).

Benthic Assessment, Seagrass Survey, and Resource Mapping for ICWW Dredge Project Permitting
Palm Beach County, Florida –
June, 2016 – November, 2016

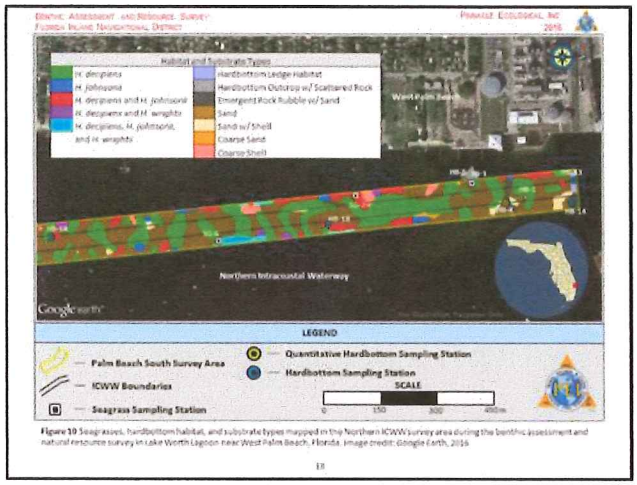
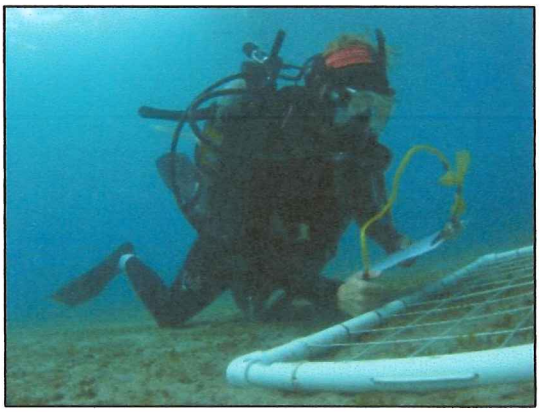


Figure 10 Seagrass, hardbottom habitat, and substrate types mapped in the Northern ICWW survey area during the benthic assessment and natural resource survey in Lake Worth Lagoon near West Palm Beach, Florida. Image credit: Google Earth, 2016

Pinnacle was contracted by FIND to complete a benthic assessment and resource survey in fulfillment of request "Benthic Survey: Palm Beach County Intracoastal Waterway (ICWW) Deepening Project - South." The benthic assessment and resource survey was conducted in association with potential channel deepening dredge activities in the ICWW and Palm Beach Channel located south of Peanut Island and extending 4.8 miles south through Lake Worth Lagoon in Palm Beach County, Florida. Survey results will be used to support environmental permit requirements associated with potential channel deepening dredge activities. The survey area included the federal channel and a 30.5-meter (100-foot) buffer area positioned on either side of the channel extending 30.5 meters (100 feet) from the navigational channel design template equilibrium top of slope. The objective of the benthic assessment and resource survey was to delineate and map benthic habitats throughout the entire survey area including seagrass and hardbottom habitats, to identify and quantify resources occurring in these habitats, and to collect stony coral size data. The benthic assessment survey identified benthic habitats and associated marine resources in vicinity of the proposed project which could be impacted by dredging and dredging related activities; including dredge pipeline placement, anchor placement, vessel operations, and/or excessive turbidity. Surveys were conducted from 13 June through 8 July 2016 with additional field surveys conducted from 1 through 13 September 2016 specifically to further document the presence of stony corals in delineated hardbottom habitat. The survey was approached in two phases in accordance with recommendations by the NMFS (2002) recovery plan for Johnson's Seagrass. During Phase I, Pinnacle's scientific dive team conducted a thorough visual assessment of the survey area providing comprehensive coverage of the proposed project area to accurately delineate existing seagrass and hardbottom habitat boundaries. Phase II involved detailed qualitative and quantitative sampling of marine resources occurring in areas previously identified as seagrass and hardbottom habitat. Florida Unified Mitigation Assessment Methodology (UMAM) Forms Part 1 (Qualitative Description) and Part 2 (Quantitative Description) were completed for each habitat type (seagrass and hardbottom) delineated during the assessment survey. Navigational GIS shapefile data of mapped resources were provided on separate digital media devices. A draft report was submitted on 3 August 2016 and the final report was approved and accepted by FIND staff on 22 November 2016.



Benthic Assessment, Seagrass Survey, and Resource Mapping for Coastal Development and Permitting
Palm Beach County, Florida –
June, 2016 – November, 2016

Pinnacle was contracted by the City of Riviera Beach on behalf of Sea Diversified, Inc. to conduct a benthic assessment and resource mapping survey in support of permit requirements associated with potential marina improvements and dredge activities in the City of Riviera Beach Marina's (Marina) South Basin and an area between the current marina footprint and the ICWW. The objective of the benthic assessment and resource survey was to delineate and map benthic habitats in the survey area including seagrass and hardbottom, and to identify and quantify resources occurring in these habitats. Data from the survey would be used to determine the feasibility of the project. The benthic assessment survey identified benthic habitats and associated marine resources in vicinity of the proposed project which could be impacted by dredging and dredging related activities. Surveys were conducted 28 to 30 September, 3 to 4 October, and 5 December 2016. Seasonal bad weather and rough sea conditions precluded contiguously scheduled field days. The survey was approached in two phases in accordance with recommendations by the NMFS (2002) recovery plan for Johnson's seagrass. During Phase I, Pinnacle's scientific dive team conducted a thorough visual assessment of the survey area providing comprehensive coverage of the proposed project area to accurately delineate existing seagrass and hardbottom habitat boundaries. Phase II involved detailed qualitative and quantitative sampling of marine resources occurring in areas identified as seagrass and hardbottom habitat during Phase I of the survey. Two species of seagrass were observed during the survey, *Halophila decipiens* and *Halophila johnsonii*; *H. decipiens* was the only species observed within the project boundaries. The average seagrass percent cover for all stations sampled was 22.78%. The average frequency of occurrence, density, and blade length for the seven (7) seagrass stations were 57.43%, 10.85 shoots/meter2, and 11.92 millimeters, respectively. Two different types of hardbottom habitats were observed in the survey area, emergent rock rubble with sand and discontinuous hardbottom outcrops with scatted rock. Emergent rock rubble with sand was the dominant hardbottom habitat observed. Sponges were identified as the most common biota colonizing hardbottom habitat (6.72% cover). A total 699 stony corals, comprised of eight (8) species, were observed during the mapping of the South Basin and survey of the south wall of the South Basin. The project was completed on time and within budget. Previous work (2012-2015) at the Marina included benthic resource mapping, sediment sampling, and development of a compensatory mitigation plan identifying potential strategies for mitigating impacts that may occur as a result of construction and dredge related activities associated with the Marina project. Pinnacle provided support for the acquisition and management of environmental permits from County, State and Federal Agencies. Pinnacle also produced the Section 7 Checklist which is a critical component in the Federal permit process for obtaining a biological opinion from the NMFS.

Environmental Assessment, Habitat Characterization and Resource Mapping, and Coral Reef Restoration and Monitoring

Miami, Florida –
May, 2014 – Present

Pinnacle was contracted to perform a series of environmental assessment studies with coral relocation activities, habitat mapping, and resource monitoring. The environmental studies were performed in two separate phases. Phase I included baseline data collection and coral relocation prior to construction and Phase II included monitoring of relocated coral resources. Environmental studies for Phase I were conducted from May through October 2014 in association with the Miami Main and Government Cut Entrance Channel ATON Replacement Project (Project Number: 4666018). The project was performed on behalf of the USCG Sector Miami. The ATON Replacement Project posed direct and indirect impacts to marine resources including ESA listed species occurring in vicinity of each of four (4) construction sites. As a requirement of the USACE Permit (SAJ-2011-01261 (NW-ALS)) no impacts to submerged or emergent resources were authorized. Therefore, prior to initiating construction activities, Pinnacle conducted a comprehensive environmental assessment of benthic habitats surrounding each of the four (4) ATON construction sites. The environmental assessments included substrate characterizations, habitat mapping, in situ taxonomic identifications, species inventory, and quantitative data collection. Pinnacle used data collected during the environmental assessment studies (Pinnacle 2014a) to develop the Coral Relocation Plan (Pinnacle 2014b) which was used to obtain authorization from NMFS and a Special Activity License from FWC to relocate corals including ESA listed species. Corals occurring within the primary construction zone footprint and that met the minimum size thresholds (≥ five (5) centimeters for scleractinian corals and ≥ ten (10) centimeters for octocorals) as indicated in the permit were relocated to an approved coral recipient site clear of potential impacts from construction related activities. Upon completion, on 7 October 2014, over 600 corals, represented by 25 species (17 scleractinian corals and eight (8) octocorals), had been rescued and reattached as a result of Pinnacle's relocation efforts. After relocation activities were completed, reattached corals were tagged, mapped, photographed, and measured to provide a reference for future monitoring. Of the 17 scleractinian species relocated during the project, two (2) species (*Acropora cervicornis* and *Orbicella faveolata*) were listed as threatened under the ESA. Pinnacle is currently conducting Phase II for the USCG Sector Miami under a subcontract for MSE Group, Inc. The USACE permit required a minimum of two post-construction monitoring events at 1.5 years and 3.0 years following completion of coral relocation efforts to determine whether coral relocation actions are providing services in a manner consistent with project goals and to assess the potential need for corrections to ensure that the project is meeting the designated performance standards. On 6 September 2016, Pinnacle produced a Scientific Dive Plan detailing the project's scientific and operational activities, risks associated with these activities, and procedures implemented to avoid and/or minimize such risks. Field monitoring was initiated on 14 November and completed on 1 December 2016. One hundred and twenty-nine relocated coral colonies represented by 22 different species (15 scleractinian corals and seven (7) octocorals) and 49 reference corals were tagged for monitoring. Monitoring data including: coral location, colony size, percent of live tissue, overall health, and attachment success (i.e., attached, loose, or missing) was documented for each of the tagged corals. Photographs were collected of each tagged colony in plane-view, oblique angle, and side-view. A Tissue Area Index (TAI) was calculated for each tagged coral to evaluate the overall survival and mitigation success of relocated corals. A monitoring report was submitted on 24 December 2016. The report provided results of the first post-construction monitoring

Benthic Assessment and Seagrass Habitat Mapping Survey, Environmental Permitting and Mitigation Planning Shoreline Stabilization/Wave Break
Broward County, Florida –
June, 2015 – Present

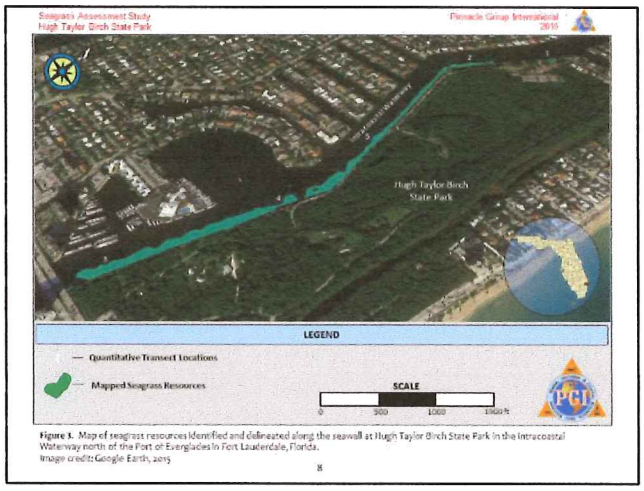


Figure 1. Map of seagrass resources identified and delineated along the seawall at Hugh Taylor Birch State Park in the Intracoastal Waterway north of the Port of Everglades in Fort Lauderdale, Florida.
Image credits Google Earth, 2015

Pinnacle was contracted by FDEP through a continuing Coastal Engineering and Marine Environmental Services Contract with Humiston Moore Engineers, PA to provide environmental science and project management services associated with a shoreline stabilization and wave break project at Hugh Taylor Birch State Park (Park) in Broward County, Florida. The Park is positioned on a barrier island (created after construction of the ICWW) that borders the Atlantic Ocean. Pinnacle performed a comprehensive benthic assessment study to delineate and quantify seagrass resources occurring in vicinity of the proposed project area. Pinnacle's team of scientific divers surveyed a total of 33,612 meters2 (8.3 acres) of seafloor immediately adjacent to the concrete bulkhead that borders the Park's west boundary along the ICWW. The objective of the assessment survey was to identify, delineate and map marine benthic resources in vicinity of the proposed project area which could be impacted by construction related activities. The initial seagrass assessment and mapping survey was conducted from 15 to 26 June 2015. Seagrass habitat was mapped using qualitative data from belt transects. A total of 238 transects varying from 30 to 100 feet were surveyed by Pinnacle's scientific dive team. Macroalgae and paddle grass (*Halophila decipiens*) represented the dominant biota observed during the seagrass assessment survey. Paddle grass (*H. decipiens*) was the only seagrass species observed in the survey area. The total seagrass habitat delineated and mapped during the seagrass assessment study was 21,473 meters2 (5.3 acres). The average seagrass density in the area ranged between 25 and 50% cover. The seagrass assessment survey report was submitted 22 July 2015. Additional field efforts occurred on 17, 18, and 20 February 2016 to map concrete pile debris in the area to determine an approximate area of coverage and identify select areas for targeting debris removal to facilitate mitigation. The results of the seagrass assessment survey were used to complete a Florida UMAM Forms Part 1 (Qualitative Description) and Part 2 (Quantitative Description), and develop a Seagrass Mitigation Plan. The Mitigation Plan provides a summary of the proposed mitigation activities, monitoring plan, success criteria and deliverables necessary to mitigate potential impacts associated with project related activities. Following extensive engagement with State and Federal Government Agencies, the Mitigation Plan was prepared in accordance with the recommendations presented by the NMFS on 14 October 2015 and was submitted 10 August 2016. Pinnacle also completed NMFS ESA Section 7 Checklist, on 26 May 2016, and supported NMFS staff during the Biological Opinion consultation as a part of the permitting process for the proposed construction activities. Additionally, Pinnacle developed a Seagrass Monitoring Plan. The monitoring plan was submitted 30 June 2016, and describes monitoring activities intended to measure the physical and biological environmental conditions occurring within seagrass habitat and mitigation areas situated between the ICWW and the bulkhead bordering the Park's western boundary. The monitoring plan includes pre- and post-construction surveys in mitigation areas and non-mitigation areas and an additional 3 years of annual monitoring to determine whether the planned seagrass mitigation is meeting the designed success criteria.

EXHIBIT "B"

Category: Environmental, Natural Resources Engineering	**Hourly Raw Salary Rate**
Principal Engineer	$ 53.42
Project Manager	$ 33.06
Senior Engineer	$ 34.61
Engineer I	$ 20.00
Engineer II	$ 24.52
Senior Engineering Tech	$ 25.21
Senior CADD Designer	$ 21.75
CADD Designer	$ 20.00
Construction Manager	$ 30.00
Senior Inspector	$ 22.00
Office Support	$ 18.68

PRICE ADJUSTMENTS BASED ON GOVERNMENTAL PRICE INDEX

Prior to the completion of the first year of the Contract term, and every 12-month anniversary thereafter, the City may consider an adjustment to prices based on the most recent 12 month change in the following pricing index: Bureau of Labor Statistics, Employment Cost Index, Private Industry Workers, Total Compensation, Management business and financial occupations, Not Seasonally Adjusted, CIU2010000110000A.

It is Consultant's responsibility to request any pricing adjustment under this provision. For any adjustment to be considered, the Consultant's request for adjustment should be submitted at least sixty (60) days prior to the anniversary date. The adjustment requested shall not be in excess of the relevant pricing index change. If a timely adjustment request is not received from the Consultant, the City may exercise its Option to Renew the Contract for another Term without any pricing adjustment.