

**WORK ORDER NUMBER 1**  
**PROJECT NAME: HCP Sea Turtle Monitoring – North County**

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This Work Order Number 1 is entered into as of this \_\_\_\_\_ day of \_\_\_\_\_, pursuant to that certain Continuing Contract Agreement for Environmental and Biological Support Services, dated October 10<sup>th</sup>, 2017, (referred to as the "Agreement"), by and between INDIAN RIVER COUNTY, a political subdivision of the State of Florida ("COUNTY") and Ecological Associates, Inc., ("Consultant").

The COUNTY has selected the Consultant to perform the Environmental and Biological Support Services set forth on Exhibit A (Scope of Work), attached to this Work Order and made part hereof by this reference. The Environmental and Biological Support Services will be performed by the Consultant for a Lump sum fee of \$ 22,380.00. The Consultant will perform the Environmental and Biological Support Services within the timeframe more particularly set forth in Exhibit A, attached to this Work Order and made a part hereof by this reference all in accordance with the terms and provisions set forth in the Agreement. Pursuant to paragraph 1.4 of the Agreement, nothing contained in any Work Order shall conflict with the terms of the Agreement and the terms of the Agreement shall be deemed to be incorporated in each individual Work Order as if fully set forth herein.

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IN WITNESS WHEREOF, the parties hereto have executed this Work Order as of the date first written above.

**CONSULTANT:**

Ecological Associates, Inc.

By: \_\_\_\_\_

  
Stanley F. DeForest

Title: \_\_\_\_\_

CEO

**BOARD OF COUNTY COMMISSIONERS  
OF INDIAN RIVER COUNTY**

By: \_\_\_\_\_

Peter D., O'Bryan, Chairman

BCC Approved Date: \_\_\_\_\_

Attest: Jeffrey R. Smith, Clerk of Court and Comptroller

By: \_\_\_\_\_

Deputy Clerk

Approved: \_\_\_\_\_

Jason E. Brown, County Administrator

Approved as to form and legal sufficiency: \_\_\_\_\_

William K. DeBraul, Deputy County  
Attorney



Ms. Kendra Cope  
Indian River County Public Works  
1801 27<sup>th</sup> Street  
Vero Beach, Florida 32960

December 12, 2017

**RE: Revised Scope of Work and Cost Proposal for Sea Turtle Monitoring, Indian River County, Florida – 2018.**

Dear Ms. Cope:

Ecological Associates, Inc. (EAI) is pleased to submit its Cost Proposal and Scope of Work for providing professional environmental services to Indian River County. This task is for sea turtle survey training, monitoring, and data management and reporting on non-project beaches in Sebastian Inlet State Park (Park) and the northern portion of Archie Carr National Wildlife Refuge (Refuge) during the 2018 sea turtle nesting season, as described in the Scope of Work presented below. This monitoring will provide the requisite baseline data for future beach nourishment projects. At the County's request, EAI is providing costs for conducting sea turtle surveys four days per week, as well as providing field training for Park and Refuge personnel and data management and reporting.

## **SCOPE OF WORK**

### **A. Training (Task 1).**

The Survey Area encompasses approximately 4 miles of beach in northern Indian River County from the Sebastian Inlet south to approximately FDEP Range Monument R-20 in the Refuge. Qualified EAI biologists will provide initial and follow-up sea turtle nesting survey training to Park and Refuge staff. Initial training will take place in early March and cover pre-existing survey zone boundaries, data collection protocols, and sea turtle crawl identification. Follow-up training throughout the season will focus on nest monitoring, nest fate determination, and reproductive success protocols, and include QA/QC of field operations performed by Park and Refuge staff.

### **B. Sea Turtle Nesting Surveys (Task 2).**

Daily morning sea turtle nesting surveys will be conducted beginning March 1, 2018 and will continue uninterrupted through September 15, 2018, according to a schedule mutually agreed upon by the County, EAI, and the Park/Refuge. Thereafter, surveys will be performed approximately three days per week until the last marked nest has been evaluated.

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**Phone: (772) 334-3729 • Fax: (772) 334-4925 • [info@ecological-associates.com](mailto:info@ecological-associates.com)**  
**[www.ecological-associates.com](http://www.ecological-associates.com)**

Surveys will commence at or shortly after sunrise. Monitoring will be performed by a combination of EAI, Park, and Refuge staff either on foot or using ATVs. All emergences (turtle crawls) apparent from the previous night will be interpreted to determine which species of turtle came ashore and whether or not it nested. Crawls will be denoted as being above or below the previous high tide line. The approximate geographic location of each crawl will be determined by GPS (sub-meter accuracy, where available). In addition to segregating crawls into nesting and non-nesting emergences (false crawls), each false crawl will be assigned to one of the following categories denoting the stage at which the nesting attempt was abandoned: no digging, abandoned body pit, or abandoned egg cavity. Any obstacles encountered by turtles during their crawls will be documented.

**Stranding and Salvage.** A requirement of FWC sea turtle permit holders conducting nesting surveys is to respond to the stranding of sick, injured and dead sea turtles within their survey area. These animals are examined, and if alive, transported to state-approved care facilities. A standard Sea Turtle Stranding and Salvage data form will be completed and submitted for each stranded animal encountered by survey personnel. This information will be transmitted to FWC in accordance with established guidelines.

**Disorientation Reporting.** During the course of daily monitoring, any evidence of hatchling misorientation or disorientation from either marked or unmarked nests will be documented on a FWC Marine Turtle Hatchling Disorientation Incident Report Form. Based on track evaluations, an estimate of the number of hatchlings disoriented will be recorded and light sources potentially responsible for the disorientation identified. A copy of the Report will be forwarded by email to FWC, as required by EAI's Marine Turtle Permit. Indian River County as well as the Park or Refuge (as applicable) will also be provided a copy of the Report so appropriate remedial action may be implemented.

**State and Federal Authorizations.** All sea turtle monitoring and related activities will be performed under FWC Marine Turtle Permit #18-010 issued by FWC to EAI Senior Project Manager, Niki Desjardin. All persons engaged in monitoring performed by EAI will be listed on the permit unless the Park, Refuge, or other qualified individual obtain a separate permit.

### C. Nest Marking and Monitoring (Task 3).

A representative sample of nests (not to exceed 50 nests) will be marked between March 1 and September 15, 2018. Nests will be marked using a series of stakes and surveyor's tape and will be monitored throughout their incubation period to determine nest fate (e.g., hatched, washed out, depredated, vandalized, etc.). After an appropriate incubation period, and in accordance with FWC guidelines, nests will be excavated to determine reproductive success. Two measures of reproductive success will be calculated: hatching success (the percentage of eggs in the nest that hatch) and emerging success (the percentage of eggs in the nest that produce hatchlings which successfully escape from the nest).

**D. Data Management and Reporting (Task 4).**

EAI will be responsible for data entry for all surveyors, including Park and Refuge staff. All data will be subject to rigorous QA/QC protocols and stored in EAI's project-specific database. EAI will coordinate with Park and Refuge staff regarding survey data and nest inventories. EAI will compile INBS reports for both the Park and Refuge, as well as prepare SNBS and NPA forms at the end of the nesting season for submittal to FWC. The following reports will be furnished to Indian River County:

1. ***Monthly summary reports*** will tabulate the dates and times of monitoring, names of monitoring personnel, numbers of sea turtle emergences by species, and numbers of nests marked and evaluated for reproductive success, as applicable. Monthly reports will be submitted to the County on the last day of the month following delivery of services (e.g., March report due no later than April 30). ***\*monthly summary reports on sea turtle nesting and predation will also be sent to the Park and Refuge to assist management efforts in those areas.***
2. ***Statewide Nesting Beach Survey and Nest Productivity Assessment*** reports will be compiled and submitted to Indian River County and FWC upon established deadlines.

EAI will submit its monthly billings for the services described above to Indian River County in accordance with the fees set forth in Attachment A. No deposit or advance mobilization fees are required.

Ecological Associates, Inc. appreciates the opportunity to be of continued service to Indian River County. If you have any questions regarding this proposal or associated costs, I can be reached at (772) 334-3729.

Sincerely,



Niki Desjardin  
Senior Project Manager

c: Stan DeForest/President

## ATTACHMENT A

ECOLOGICAL ASSOCIATES, INC.  
P.O. BOX 405  
JENSEN BEACH, FLORIDA 34958

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**REVISED COST PROPOSAL – February 6, 2018**

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**PROJECT NAME:** Indian River County Sea Turtle Monitoring  
(EAI Project No. 18-1501)

**CLIENT:** Ms. Kendra Cope  
Indian River County Public Works  
1801 27<sup>th</sup> Street  
Vero Beach, Florida 32960  
Phone: (772) 226-1569 Email: [kclope@ircgov.com](mailto:kclope@ircgov.com)

**PROJECT DESCRIPTION:** Sea turtle monitoring and ancillary professional services along approximately 4 miles of beach in northern Indian River County, Florida, as described in EAI's Scope of Work dated December 12, 2017.

**PROJECT DURATION:** March 2018 – December 2018.

**COSTS:** All services will be provided on fixed price basis, as itemized below. If the County chooses, Task 3a may be billed on a per nest basis.

Task	Description	Cost
<i><b>EAI Surveys 4 Days per Week</b></i>		
1a	Training – 5 hours of initial training (March) and 10 hours of follow-up training throughout nesting season with Park and Refuge staff, including QA/QC	<u>\$1,200.00</u>
2a	Sea turtle nesting surveys – EAI surveys 4 days per week from March 1 – September 15 and 1 day per week thereafter through 2 <sup>nd</sup> week of November; includes disorientation reporting	<u>\$7,872.50</u>
3a	Nest marking and monitoring for nest fate and reproductive success; includes nest marking supplies ( <u>fixed rate or per nest rate \$58.20, not to exceed 50 nests</u> )	<u>\$2,960.00</u>
4a	Data Management and Reporting – Data entry into electronic database for all surveyors and related QA/QC measures; includes coordination with Park and Refuge Staff re: data and nest inventories; includes preparation of INBS, SNBS, and NPA reports and submittal to FWC	<u>\$10,347.50</u>
<b>TOTAL</b>		<b><u>\$22,380.00</u></b>

**TERMS:** All terms and conditions related to this Scope of Work will be governed under EAI's Continuing Contract Agreement for Environmental and Biological Support Services dated October 10, 2017.