



Mr. Quintin Bergman  
Indian River County Public Works  
1801 27<sup>th</sup> Street  
Vero Beach, Florida 32960

February 2, 2022

Dear Mr. Bergman:

Ecological Associates, Inc. (EAI) is pleased to submit its revised Scope of Work and Cost Proposal for providing professional environmental services to Indian River County. All conditions related to this proposal shall be governed under EAI's Continuing Contract Agreement for Environmental and Biological Support Services with the County renewed in October 2021.

The new task is for sea turtle monitoring along approximately 10 miles of beach in support of the County's Habitat Conservation Plan during the 2022 sea turtle nesting season, as described in the Scope of Work presented below. This monitoring will provide baseline data for future beach nourishment projects and support long-term monitoring efforts for sea turtles along the County's beaches.

**Scope of Work:**

**Task 1: Project Management and Mobilization**

The Survey Area consists of an approximately 0.6-mile northern section (FDEP R-17 to R-20) and an approximately 9.5-mile southern section (R-68 to the Indian River/St. Lucie County Line). Pre-existing survey zone boundaries will be verified and re-marked, and project-specific data sheets and a database will be created. An EAI project manager will oversee all fieldwork and data management operations, participate in weekly check-in meetings with the County, and consult with the County on monitoring requirements, as necessary. A project schedule, as well as field survey schedules, will be created and maintained throughout the life of the project. All equipment and supplies necessary to successfully implement this Scope of Work are available.

**Task 2: Sea Turtle Nesting Surveys and Data Management**

Daily morning sea turtle nesting surveys will be conducted beginning March 1, 2022 and will continue uninterrupted through September 30, 2022. Thereafter, surveys will be performed three days per week until the last marked nest has been evaluated.

Surveys will commence within 30 minutes of sunrise. Monitoring will be performed by EAI staff or Indian River County staff either on foot or using ATVs (*Indian River County staff have agreed to perform the nesting surveys three days per week through September 30 in the southern survey area; EAI will perform all surveys thereafter*).

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). 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.

**Disorientation Reporting.** During the course of daily monitoring, any evidence of hatchling misorientation or disorientation from either marked or unmarked nests will be documented using FWC's electronic 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. Information concerning each incident will be forwarded by email on a weekly basis to Indian River County so appropriate remedial action may be taken.

**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 EAI. This information will be transmitted to FWC in accordance with established guidelines.

**State and Federal Authorizations.** All sea turtle monitoring and related activities will be performed under FWC Marine Turtle Permit #261 issued by FWC to EAI Director of Operations, Niki Desjardin. All persons engaged in monitoring for Indian River County will be listed on the permit.

All data will be subject to rigorous QA/QC protocols and stored in EAI's project-specific database. Monthly summary reports will be furnished to Indian River County. These 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).

**Task 3: Nest Marking and Monitoring**

A representative sample of nests will be marked for determination of nest fate and reproductive success (not to exceed 195 nests total in the entire Survey Area). Nests will be marked using a series of stakes and surveyor's tape. These nests 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 the FWC Handbook, 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).

**Task 4: Nest Protection**

EAI will barricade and protect sea turtle nests deposited in areas of concern designated by the County. Nests will be conspicuously marked for avoidance with a series of stakes and surveyor's tape and be monitored throughout the season. These nests will not be excavated for reproductive success purposes. *Nest protection will be billed at \$25.00 per nest (EAI estimates 60 total nests requiring protection).*

**Task 5: Reporting**

EAI will prepare the marine turtle permit-required Index Nesting Beach Survey (INBS), Statewide Nesting Beach Survey (SNBS), and Nest Productivity Assessment (NPA) reports for this project and submit to the County and FWC, as mutually agreed upon.

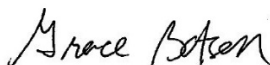
**Task 6: Data QA/QC Coordination**

EAI staff will provide initial QA/QC to County staff at the beginning of the nesting season and follow-up QA/QC throughout the nesting season.

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

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

Sincerely,



Grace Botson  
Project Manager

c: Niki Desjardin/Director of Operations

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

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**COST PROPOSAL – February 2, 2022**

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**PROJECT NAME:** Indian River County HCP Sea Turtle Monitoring Program - 2022  
(Project No. 22-3020)

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

**PROJECT DESCRIPTION:** Sea turtle monitoring and ancillary professional services along approximately 10 miles of beach in support of Indian River County’s Habitat Conservation Plan, as described in EAI’s Scope of Work dated February 2, 2022.

**PROJECT DURATION:** March 2022 – December 2022.

**PROJECT COSTS:** All services will be provided at the fixed rates specified below (*except where noted*), inclusive of all time and materials required to perform the Scope of Work.

<b>Task</b>	<b>Description</b>	<b>Cost</b>
<b><i>Shared Project Costs</i></b>		
1	Project management and mobilization	\$4,681.00
<b>Subtotal</b>		<b>\$4,681.00</b>
<b><i>North HCP Area</i></b>		
2a	Sea turtle monitoring and data management (240 days)	\$16,930.00
3a	Nest marking and monitoring and determination of nest fate and reproductive success ( <i>Per nest rate; not to exceed 45 nests at \$66.20/nest</i> )	\$2,979.00
4a	Nest protection (not to exceed 10 nests)	\$250.00
5a	Reporting	\$1,001.00
<b>Subtotal</b>		<b>\$21,160.00</b>
<b><i>South HCP Area</i></b>		
2b	Sea turtle monitoring (147 days) and data management (240 days)	\$50,595.35
3b	Nest marking and monitoring and determination of nest fate and reproductive success ( <i>Per nest rate; not to exceed 150 nests at \$66.20/nest</i> )	\$9,930.00
4b	Nest protection (not to exceed 50 nests)	\$1,250.00
5b	Reporting	\$3,154.00
6	Data QA/QC Coordination	\$3,060.00
<b>Subtotal</b>		<b>\$67,989.35</b>

<b>TOTAL (<i>not to exceed</i>)</b>	<b>\$93,830.35</b>
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**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 renewed in October 2021.

**ATTACHMENT B**

**Ecological Associates, Inc.**

**2022 Indian River County HCP Sea Turtle Monitoring - Breakdown of Tasks by Hours/Rates**

**Shared Project Costs**

<b>Task No.</b>	<b>Task Description</b>	<b>Position</b>	<b>Rate</b>	<b>Units</b>	<b>Subtotal</b>	<b>Total</b>
1	Project Management and Mobilization	Field Tech	\$ 62.00	3	\$ 186.00	\$ 4,681.00
		Biologist I	\$ 90.00	3	\$ 270.00	
		Project Manager	\$ 130.00	32.5	\$ 4,225.00	
<b>Subtotal</b>						<b>\$ 4,681.00</b>

**North HCP Sea Turtle Survey Area**

<b>Task No.</b>	<b>Task Description</b>	<b>Position</b>	<b>Rate</b>	<b>Units</b>	<b>Subtotal</b>	<b>Total</b>
2a	Sea Turtle Monitoring and Data Management	Field Tech	\$ 62.00	271.25	\$ 16,817.50	\$ 16,930.00
		Biologist I	\$ 90.00	1.25	\$ 112.50	
3a	Nest Marking and Monitoring	Field Tech	\$ 62.00	45	\$ 2,790.00	\$ 2,979.00
	Equipment	Fixed Rate	\$ 189.00	1	\$ 189.00	
4a	Nest Protection	Fixed Rate	\$ 25.00	10	\$ 250.00	\$ 250.00
5a	Reporting	Biologist I	\$ 90.00	8	\$ 720.00	\$ 1,001.00
		Senior Scientist I	\$ 108.00	2	\$ 216.00	
		Project Manager	\$ 130.00	0.5	\$ 65.00	
<b>Subtotal</b>						<b>\$ 21,160.00</b>

**South HCP Sea Turtle Survey Area**

<b>Task No.</b>	<b>Task Description</b>	<b>Position</b>	<b>Rate</b>	<b>Units</b>	<b>Subtotal</b>	<b>Total</b>
2b	Sea Turtle Monitoring and Data Management	Field Tech	\$ 62.00	730.75	\$ 45,306.50	\$ 50,595.35
		Biologist I	\$ 90.00	10	\$ 900.00	
		Equipment	Fixed Rate	\$ 4,388.85	1	
3b	Nest Marking and Monitoring	Field Tech	\$ 62.00	150	\$ 9,300.00	\$ 9,930.00
	Equipment	Fixed Rate	\$ 630.00	1	\$ 630.00	
4b	Nest Protection	Fixed Rate	\$ 25.00	50	\$ 1,250.00	\$ 1,250.00
5b	Reporting	Biologist I	\$ 90.00	24	\$ 2,160.00	\$ 3,154.00
		Senior Scientist I	\$ 108.00	8	\$ 864.00	
		Project Manager	\$ 130.00	1	\$ 130.00	
6	Data QA/QC Coordination	Biologist I	\$ 90.00	34	\$ 3,060.00	\$ 3,060.00
<b>Subtotal</b>						<b>\$ 67,989.35</b>

**Grand Total    \$ 93,830.35**