DRAFT CAHA ORV ResProt Tables.v092508_rev1

Draft Deliberative Document – Not for Release

Survey Time and Frequency	Piping Plover	American Oystercatcher	Colonial Waterbirds
All Bird Species	**Species Management 1 (SM1): 8-10 Total biological field personnel. Will require larger longer lasting buffers with less monitoring and will alleviate the need for constant monitoring.** **Species Management 2 (SM2): 20-22 total biological field personnel. Buffers will be customized at the spits and points towards bird presence and movement.**		
Pre-Nesting Surveys	By March 1, all potential habitats will have been evaluated. PIPL pre-nesting closures will be recommended based upon that habitat evaluation. Those closures will installed by March 15. March 15 – July 15 survey recent breeding areas (last three years) three times per week (or every other day). Survey potential new and or former habitat two times per week. Survey for Wilson's plover during piping plover surveys. The PIPL pre-nesting areas will be surveyed 3 times per week if piping plovers are present in the area. To mitigate disturbance to nesting birds, surveys may need to be curtailed. Pre-nesting buffers will not be modified in cases where the beach erodes into the buffered habitat.	March 15 – July 15 survey recent breeding areas (last three years) two times per week. Turtle patrol will take over monitoring after July 15th. If an AMOY nests in a pre-nesting closure at one of the points or spits in an area which requires an expanded buffer (e.g., nest inside pre-nesting closure but buffer not adequate) and the nest is over-washed or predated, the buffer expansion shall be removed to the established pre-nesting closure.	May 1 – July 15 survey recent breeding areas (last three years) two times per week. Turtle patrol will take over monitoring after July 15th. If a colony is established in a pre-nesting closure at one of the points or spits in an area which requires an expanded buffer (e.g., colony inside pre-nesting closure but buffer not adequate) and the colony is over-washed or predated, the buffer expansion shall be removed to the established pre-nesting closure.
Pre-Nesting Buffers	SM1: Pre-nesting closures at the points, spits, South Beach and resource area closures will not allow ORV or pedestrian access. SM2: Designate an ORV and/or pedestrian access corridor which may include a pass through or boat delivery system (water taxi) to designated points and spits. Outside of corridor, prohibit pedestrian access to breeding areas beyond the resource area closures. Delineate the corridor with posts placed up to 100 feet above the high tide line. No pets would be allowed in the pass through corridors or at the points and spits. At other resource area closures no ORV or pedestrian corridors would be designated, due to the narrow beach width of these areas. Pre-nesting closures may be modified at anytime as long as minimum buffers are maintained around breeding birds of all species.		

DRAFT CAHA ORV ResProt Tables.v092508_rev1

Draft Deliberative Document – Not for Release

	In February or March of each year, NPS natural resource staff will conduct an annual assessment of piping plover breeding habitat to plan pre-nesting closures in recent breeding areas that are adapted to current habitat and physiographic conditions. Recent breeding areas will be closed by posting symbolic fencing by **March 15.** Closures will be removed if no breeding activity is seen in the area by June 15 or when area has been abandoned for a 2-week period, whichever comes later.	SM1:Pre-nesting closures with recent breeding activity would be installed by **March 15.** Closures will be removed if no breeding activity is seen in the area by July 15 or when area has been abandoned for a 2-week period, whichever comes later. SM2: Pre-nesting closures will not be established prior to the bird's arrival.	SM1 & SM2: Pre-nesting closures will not be established for CWB. Note: CWBs do not return to exactly the same location every year making it difficult to establish a p closure for them under SM1. Also, most wi Resource Areas.
Courtship/Mating Surveys:	If species are observed exhibiting territorial or courtship behavior during two separate observations in recent breeding habitat, observe three times per week. If scrapes are observed in the absence of courtship behavior, survey three times per week. Survey potential new habitat two times per week.		
Courtship/Mating Buffers:	If courtship or copulation is observed outside of existing pre-nesting closures, establish or expand buffer to ensure 50 m buffer for the observed birds.	SM1: Pre-nesting closures will have already been established for the majority of returning birds. Pre-nesting closures will be evaluated to determine the adequacy of their placement. For observed activity outside of pre-nesting closures, closures will be installed when three separate observations of scraping or territorial behavior have been documented or if a scrape is being maintained. Based on bird behavior and suitable habitat, a 300 meter buffer will be established around the bird activity. SM2: In newly occupied habitat,	SM1: If scraping is observed outside of existing closures, a 300 meter buffer will be established around the scrape locations. Closure establishment will be based on the locations of scrapes and not locations for copulation or "fish flashing". SM2: If scraping is observed a closure with a 100 m buffer will be established for least terns and 200 m for all other colonial waterbirds (i.e. common terns, gull-billed terns, and black skimmers). At the points and spits provide a pass through corridor for pedestrians and ORVs above the high tide line if the buffer allows for it and does not occur in the intertidal zone. No pets will be allowed in the pass through corridor or at the spits and points.

Comment [MSOffice2]: This only applies if no PIPL breeding activity has been observed at all. For example, this year we did not have any breeding activity at Hatteras Inlet and it would have been nice to pull it earlier. We still had AMOYs in the area that would have required an appropriate buffer.

Comment [MSOffice1]: This only applies if no PIPL breeding activity has been observed at all. For example, this year we did not have any breeding activity at Hatteras Inlet and it would have been nice to pull it earlier. We still had AMOYs in the area that would have required an appropriate buffer.

		closures will be installed when three separate observations of scraping or territorial behavior have been documented or if a scrape if being maintained. A 150-meter buffer will be established around all the areas of activity. Designate an ORV and pedestrian pass through corridor to allow access to points and spits. Outside of corridor, prohibit pedestrian access to breeding areas beyond the resource area closures.	
Nesting Surveys:	Observe nests daily from a distance that does not disturb the birds, based on professional judgment. Approach nests once per week to observe and record data.	Observe nests at least three times per week from a distance. SM1: For incubating birds that cannot be observed from a distance, check nests on a weekly basis (or as staff is available). SM2: For incubating birds that cannot be observed from a distance, check nests every three days.	Colonies will be surveyed by foot during the "peak" nesting period which is during the last week of May and the first week of June. Observe colonies at least three times per week from a distance. SM1: For incubating birds that cannot be observed from a distance, check colonies on a weekly basis. SM2: For incubating birds that cannot be observed from a distance, check colonies every three days.
Nesting Buffers:	All species: The park retains the discretion to expand buffers under SM1 and SM2 depending on staffing and bird behavior. In unprotected areas, a closure will be established immediately when a nest (with egg) is found. Buffers will remain in place for 2 weeks after a nest is lost to determine if pair will re-nest, if no other species nesting in area. After August 1, closures will be removed if all nesting is complete.		
	SM1 & SM2: Establish 50-meter buffer/closure around piping plover nests occurring outside existing closures. If disturbance is observed expand closures using flexible increments dependent on observed bird behavior (until	Establish buffer/closure based on adult's reaction to human disturbance. SM1: Buffer will be the same as for courtship and mating – 300 meters. SM2: Buffers will be a minimum of	SM1 & SM2: Install closures immediately w is located. Establish a buffer/closure based reaction to human disturbance. SM1: Buffer will be the same as for courtship and mating – 300 meters.

Comment [d3]: The majority of buffers specified by USGS and used by other nesting beaches only reference single studies without those studies being replicated by other researchers.

	reaction).	150 meters. If the buffer falls within the intertidal zone a full-beach closure will result. Designate an ORV and pedestrian pass through corridor to allow access to points and spits. Outside of corridor, prohibit pedestrian access to breeding areas beyond the resource area closures.	SM2: Buffers will be a minimum of 100 meters around the nest or colony. If the buffer falls within the intertidal zone a full-beach closure will result. If the colony contains common terns, gull-billed terns or black skimmers, a 200 meter buffer will be established. Designate an ORV and pedestrian pass through corridor to allow access to points and spits. Outside of corridor, prohibit pedestrian access to breeding areas beyond the resource area closures. SM1 & SM2: Closures will be removed when areas have been abandoned for a two week period. After August 1 the 2-week removal period will no longer be required for closure removal.
Adult Foraging Buffer:	For breeding adults (with an associated scrape or nest territory) foraging outside of a closure on two consecutive surveys, expand the buffer using flexible increments based on observed bird behavior to include foraging site if the foraging area is associated with a pre-nesting closure. These closures are intended to provide foraging opportunities close to breeding sites.	No additional buffers/closures.	No additional buffers/closures.
Unfledged Chicks Surveys:	SM1: Observe brood once daily. SM2: Observe brood am and pm daily. Have monitor(s) present during periods of ORV or pedestrian access. Observations end once chicks have fledged. Chicks are considered fledged at 35 days or are observed in sustained flight of >15 m.	SM1: Observe brood at a minimum every other day. SM2: Observe brood once daily. Observations end once the chicks have fledged. Chicks are considered fledged if they have been observed to be proficient in flying or observed in sustained flight of >30 m.	Colonies will be surveyed by foot during the “peak” hatching period which should fall 21 days after initial nest counts. A follow-up survey by foot should be conducted during the “peak” fledge which should fall 20 days after hatch counts. SM1: Observe colony weekly. SM2: Observe colony at two-three day intervals. (Staff feels that higher frequency observations do not add to overall data) Observations end after no unfledged chicks have been

			observed on two consecutive occasions. Closure can be removed after all chicks have fledged.
Unfledged Chick Buffers:	SM1: Establish a minimum 1000 meter buffer on either side of brood based on observation of bird behavior and terrain conditions at site (Insert language from Appendix G). No ORV or pedestrian access until all chicks have fledged. SM2: *For the first two weeks after hatching establish a 1000 meter buffer for ORVs and pedestrians on either side of brood. Based on observed behavior (i.e., mobility of the brood) and the capability to intensively observe mobility and behavior, at the discretion of park management, the buffer can be reduced after the first two weeks to no less than 500m for ORVs and 200m for pedestrians. It will be up to the discretion of the Park whether or not the area can be opened to pedestrians. If the chicks are highly mobile the 1000 meter buffer may need to be maintained. Buffer moves with chicks. Points and spits would only be accessible from 7 AM-7 PM as long as unfledged chicks are in the area. The 7 AM opening may be delayed if the chicks cannot be located.	SM1: Establish a 300 meter buffer when unfledged chicks are present. Closure would be removed 2 weeks after fledging. SM2: Establish a 200 meter buffer around the chick(s) location. Adjust/increase buffer as needed when chicks are mobile. ORV access would not be allowed until 2 weeks after AMOY chicks have fledged (observed flight of 30 meters); a pedestrian corridor may be established prior to 2 week requirement for access to the points and spits. Points and spits would only be accessible during daylight hours as long as unfledged chicks are in the area.	SM1: same as courtship and mating – 300 meters. If chicks move outside of the buffer, it will be adjusted will be adjusted to include an additional 200 meters from the chick(s) location outside of the closure. SM2: Establish a 200 meter buffer around the chick(s) location. Adjust buffer as needed when chicks are mobile.
	Reopen access corridor after chicks fledge (except for AMOYs where the area will remain closed for an additional 2 weeks).		
Non-breeding / Wintering Survey	NPS will monitor presence, abundance and behavior of migrating and wintering PIPL, AMOY, WIPL, and REKN at the points and spits. Surveys will begin after the last PIPL chick has fledged on the seashore and end on March 1 the following year. Surveys will be conducted three times per month at pre-established locations based on a habitat assessment conducted at the beginning of the winter survey season.		
Non-breeding / Wintering Buffers	Annual habitat assessment will be conducted after all birds have fledged from the area.	No closures.	No closures.

	Winter closures will be based on habitat used by wintering PIPLs in the past 3 years, the presence of birds at the beginning of the migratory season, and suitable habitat types based on the results of the annual survey. All winter closures will be installed no later than Sept 15th. Actual locations of suitable foraging and resting habitat may change periodically due to natural processes.		
Data Collected	GPS will be used to document nest locations. Record locations where territorial/courtship behavior occurs to include scrape locations. Estimate where adult and chick foraging occurs. Chicks should never be disturbed to obtain this information. Record presence and abundance of birds.	GPS will be used to document nest locations. Record presence and abundance of birds.	GPS will be used to document colony locations. Record presence and abundance of birds.
Sea Turtles (a minimum of 7 field personnel is required to meet the daily monitoring requirements on the Park's 67 miles of shoreline)			
Survey Time and Frequency	Sea turtle patrol will begin on May 1, unless leatherback nests have been reported within the state, in which case CAHA will follow the direction of NCWRC. Patrol will continue until September 15, or two weeks after the last sea turtle nest or crawl is found, whichever is later. Conduct daily morning surveys by ATV/UTVs and possibly ORVs for crawls and nests on all beaches before onset of heavy public ORV use. Daily surveys for nests end September 15, or two weeks after the last sea turtle nest or crawl was found, whichever is later. Periodic monitoring (e.g., every two to three days) for unknown nesting and emerging hatchlings will continue, especially in areas of high visitation from that date until November 15. Monitoring will also occur for post-hatchling washbacks during periods when there are large quantities of seaweed washed ashore or following severe storm events. Nest observations stop when all nests have hatched or excavation indicates that the nest was not viable. Once a light filter fence is installed, monitor nests daily for signs of hatchling emergence.		
Data Collected	Follow the North Carolina Wildlife Resources Commission Handbook and record: -Turtle species -Nest vs. false crawl -Location (physical description and GPS location) -If nest needs to be relocated and, if so, why and where (new physical description and GPS location), number of eggs relocated, and time of day -Necessary protective measures for nest and hatchlings		

	-Information regarding any post hatching nest excavation and analysis Examine all nests after hatching to determine productivity rates. Excavate nests in the evening a minimum of 72 hours after hatching event. In cases where hatching events or dates were unknown, unearth nest cavities 80–90 days after the lay date. Any live hatchlings found during excavations will be released after dark on the same day as excavation. For strandings the following will be recorded: species, location, measurements, and signs of human interactions. Samples and photos will be collected when necessary. Necropsies will be conducted when possible.
Nest Closures/ Buffers	Establish a buffer approximately 10 meters by 10 meters with symbolic fencing and signage around nest. Closure size may be modified due to environmental conditions at the nest site. Approximately 50– 55 days into incubation, closures expanded to the surf line. The width of the closure based on the type and level of use in the area of the beach where the nest was laid: a. vehicle-free areas with little or no pedestrian traffic – 25 meters wide (total width); b. villages or other areas with high levels of day use –50 meters wide (total width); c. areas with ORV traffic –105 meters wide (total width). Opposite the surf line on the landward side of the closure, expand the closed area to 15 meters where possible, but no less than 10 meters duneward from the nest. Traffic detours behind the nest area clearly marked with signs and reflective arrows. Where present within closure, vehicle tracks manually smoothed with rakes or a steel mat attached to an ATV, so as not to impede hatchlings attempting to reach the surf. Use light filtering fence behind nests nearing hatch dates to block light pollution from the villages and vehicles operating on the beach after dark. If multiple nests are located near each other (within 150 feet), and have similar hatch dates (14 days), then closures will encompass all nests in the area, and will not be removed until all nests within the closure have hatched.
Nest Relocation	By April 15th, areas deemed unsuitable for turtle nests (i.e. high erosion rate) will be identified by Park staff. Maps and descriptions of these areas will be analyzed by NCWRC prior to nesting season. When a nest is found, staff assesses need for nest relocation and follows relocation guidance identified in the NCWRC handbook. If it is determined the nest will not be relocated, it will be immediately protected with a symbolic fencing and signs and will measure approximately 10 meters by 10 meters in size. Closure size may vary at the discretion of staff due to the environmental factors at a nest location. If a nest is threatened by an imminent storm event, NPS will consult with NCWRC to determine appropriate action.
Light Management	Establish turtle friendly lighting standards and/or reduce light for all Seashore (NPS) structures. Encourage concessioners to install turtle friendly lighting. Develop educational material to inform visitors about their impact on the success of sea turtle nests.

DRAFT CAHA ORV ResProt Tables.v092508_rev1

Draft Deliberative Document – Not for Release

Research	Support research efforts looking at the sex ratios of sea turtles. Respond to sea turtle strandings in a timely manner, and report all information, pictures, and signs of human interaction to NCWRC. Necropsies of strandings will be done when possible.
Seabeach Amaranth	
Survey Time and Frequency	August An annual survey of potential habitat will be conducted. Some bird closure areas may not be surveyed due to the potential to disturb nesting birds. Some areas may not be surveyed until just prior to re-opening an area to ORV traffic. July– September Before opening any species closure or identifying alternate ORV corridors, survey for seedlings/plants. End observations when all plants have died back.
Data Collected	Record location of all individual plants or plant clusters using a GPS and note if the plant is located in an area open or closed to recreational use.
Buffers	April 15 – November 30 If a plant/seedling is found outside of an existing closure, the Seashore will erect symbolic fencing with signage creating a 10 meter by 10 meter buffer around the plant. If plants are located next to each other, the area will be expanded to create one enclosure protecting several plants. If a SBA is found during the survey prior to reopening a bird closure to ORV and pedestrian use, the Seashore will protect the SBA as described above and reopen the areas of the bird closure where no plants exist. Areas reopened if no plants are present by September 1. Where plants occur, the closed areas will be reopened after the plants have died.