UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
National Centers for Coastal Ocean Science
Silver Spring, Maryland 20910

Addendum to CE Memorandum for Special Award Condition signed 5/18/2017

MEMORANDUM FOR: The Record

FROM: Steven Thur, Ph.D
Acting Director

SUBJECT: Categorical Exclusion for RESTORE Act Science Program Award #NA17NOS4510092, "A multiscale approach to understanding migratory land bird habitat use of functional stopover habitat types and management efforts"

ENCLS:
(1) ESA request for 4305 Zenzal Bird Migration
(2) LOC FWS LA Ecological Services Office
(3) LOC FWS AL Ecological Services Office
(4) Permit # 24101 expiration 12/31/2020
(5) Permit # 2017131976065650 expiration 7/26/2018
(6) Permit # LNHP-17-075 expiration 12/31/2017
(7) Permit # 0929171 expiration 2/28/2019
(8) Permit # SPR-0917-188 no expiration
(9) Permit for Jacinto Port and Splinter Hill Bog, expiration 11/1/2019

NOAA Administrative Order (NAO) 216-6A, Environmental Review Procedures, requires all proposed projects be reviewed with respect to environmental consequences on the human environment. This memorandum addresses the determination that the activities described below for Project #2624305, "A multiscale approach to understanding migratory land bird habitat use of functional stopover habitat types and management efforts", qualifies to be categorically excluded from further National Environmental Policy Act review.

Categorical Exclusion Determination

This action would not result in any changes to the human environment. As Defined in Section 4 and Appendix E of NAO 216-6A Companion Manual E5. – Activities involving invasive techniques or methods that are conducted for scientific purposes, when such activities are conducted in accordance with all applicable provisions of the Endangered Species Act, Marine Mammal Protection Act, Migratory Bird Treaty Act, and Magnuson-Stevens Fishery Conservation and Management Act. Such activities will be limited to impacting living resources on a small scale relative to the size of their populations, and limited to methodologies and locations to ensure that there are no long-term adverse ecosystem impacts.

Purpose and need

The RESTORE Act Science program is funding a three-year project to University of Southern Mississippi researchers and sub-awardees to increase understanding of migratory land bird habitat use in coastal areas of the Northern Gulf of Mexico to inform habitat objectives for land managers and conservation planners. The Gulf of Mexico is a highly conspicuous, energetically demanding feature of the Nearctic-Neotropical bird migration system and over two-thirds of all land birds breeding in temperate North America negotiate this ecological feature *en route* to nonbreeding habitats. Researchers will investigate use of functional stopover habitat types using weather radar data as a conservation tool and measure migrant habitat use relative to management efforts through tagging and habitat field studies. Finally, environmental data will be introduced into a bioenergetics model to determine habitat-specific thresholds for conservation planning and management decisions.

The following activities are proposed to meet the above project objectives:

- Migration Stopover Station Data Collection
    - Banding stations
    - Vegetation sampling
    - Bird food resource sampling
- Weather Surveillance Radar
- Bioenergetics Model

Action Area:

The action area for field aspects of this project will be coastal counties in Alabama and Louisiana (table 1). Weather surveillance radar data will come from 10 stations in the northern Gulf of Mexico (Figure 1). Six field study sites will be set up; 3 within the coverage range of the Lake Charles, LA weather surveillance radar and 3 within the coverage range of the Mobile, AL weather surveillance radar (Figure 1). Field sampling will not occur within areas suitable for red-cockaded woodpecker or American chaffseed habitat. Louisiana field sites will not be within pine forests, which are habitats used by these two species of concern, rather the researchers will be focusing on hardwood dominated sites. Also, it is unlikely that research sites will be in close proximity to waterbird nesting colonies; the researchers will survey the potential sites and make sure activities occur > 1,000 feet from any rookery.

Table 1. Location, GPS coordinates and ownership of proposed action areas

Site State	Site name	GPS Coordinates	Ownership
LA	Hollister Woods	29°44'55.08"N, 92°53'42.17"W	TNC
LA	Lacassine Bayou	30° 6'34.58"N, 92°54'30.72"W	Private landowner
LA	CC Roads	30°26'4.49"N, 93° 4'27.98"W	TNC
AL	Bon Secour NWR	30°16'3.27"N, 87°45'10.11"W	USFWS
AL	Splinter Hill Bog WMA	31°1'28.85"N, 87°40'39.63"W	AL State
AL	Jacinto Port WMA	30°48'40.14"N, 88° 3'31.62"W	AL state

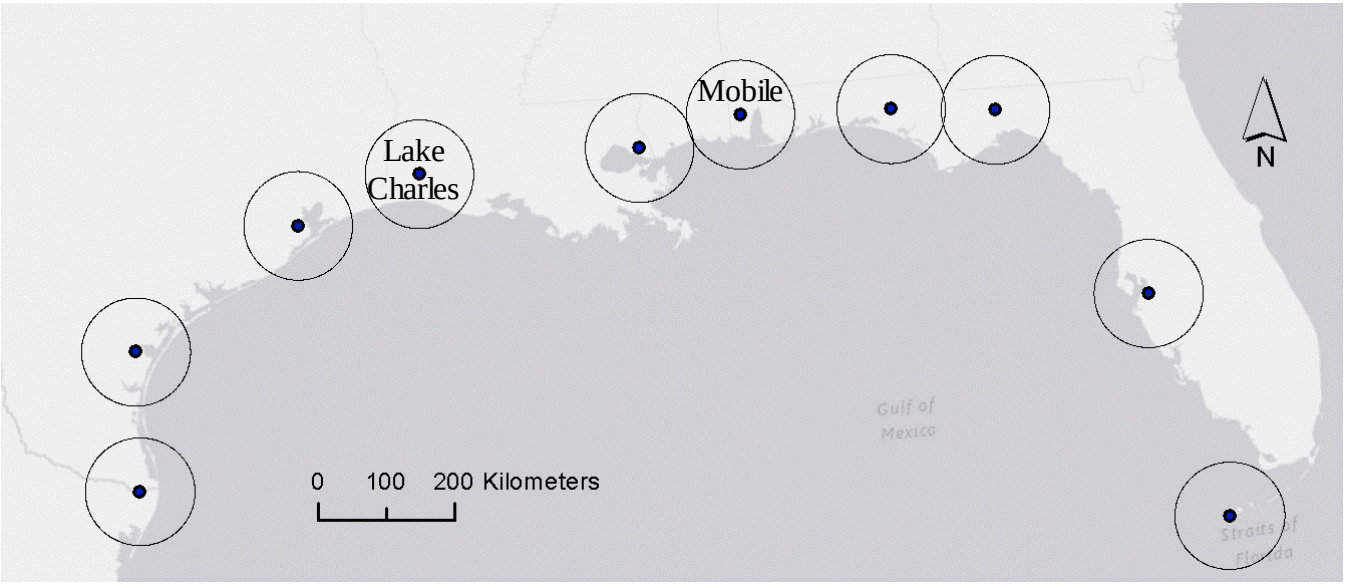

Figure 1. Action Area. Distribution of 10 weather surveillance radar stations (points) along the northern coast of the GOM. Radar can detect migrating birds emerging from stopover habitats out to 100 km range (circles). The Lake Charles, LA and Mobile, Al radars that are the focus for the field studies are labelled.

Project Activities:

1. Migration Stopover Station Data Collection
    a. Stations will run simultaneously and operate in spring (15 March – 15 May) and autumn (1 September – 1 November) for two consecutive years starting in March 2018. Within the range of each of the two weather surveillance radar stations they will have three stations, one from each of the functional coastal forest stopover habitat types (fire escape, convenience store, full-service hotel; see Mehlman et al. (2005)). Thus the field study will consist of two replicates of the three different stopover habitat types. The project focuses on slightly inland forested habitats, especially bottom and upland hardwoods.
    b. Bird banding stations. Each site will be operated by a bander-in-charge and two field technicians using a total of 15 mist nets (30 mm mesh) distributed throughout the study site. Birds will be passively sampled on a daily basis conducting net checks every 30 minutes, holding birds no longer than 2 hours, immediately releasing individuals showing signs of stress (panting, puffing feathers, squinting), and only processing birds that become recaptured more than 3 hours after the prior capture. The researchers plan to have a minimum of approximately 1500 net hours per site over the duration of the study. Past experience suggests they will capture approximately 500 birds per site per season. Birds will be identified to species, banded with a USGS aluminum leg band, age and sex determined, subcutaneous fat assessed, wing chord measured (0.5 mm), and massed (0.1 g). The researchers will also collect fecal samples from captured individuals to determine which food resources migrants are selecting. They will have to remove some vegetation in order to establish net lanes and transects (see below) but they plan to remove the minimal amount of vegetation necessary to complete fieldwork.
    c. Vegetation sampling. At each site a single 400m long transect will be established across the site. The researchers will sample vegetation using the approach described by James and Shugart (1970) to determine the composition of woody plants, maximum canopy and

shrub height, and amount of ground and canopy cover for five sampling points along the transect at each study site once during the course of the study. Each sampling point is an area of 11.28 m radius from the point (~0.04 hectares). Composition of woody plants will be determined through stem counts of shrubs and DBH measures of trees. Additionally, they will track leaf out phenology of the dominant woody plants during spring at each site using a categorical scoring system.

d. Bird food resource sampling. To assess food resources, they will sample both arthropod and fruit resources. They will measure fruit availability and phenology along the transect once per week through each study site, determining the number of ripe, unripe, and dead fruit on each plant. The energetic composition of common Gulf coast fruits have already been complied by lead PI Zenzal and Co-PI Barrow. The researchers will estimate arthropod availability from three different layers (canopy, sub-canopy, and leaf litter) within each study site every 50m (n = 9) along the transect every week. Canopy and sub-canopy arthropods will be sampled using a "branch clipping" technique (see Johnson (2000) for details). Briefly, they will determine the dominant tree species within each site and sample substrate arthropods by placing a bag around a single branch in each layer, clipping the branch, spraying the branch with insecticide inside the bag, and sorting any arthropods found inside. Leaf litter arthropods will be sampled using methods described by Mettke-Hofmann et al. (2015), including collecting leaf litter from each 25 x 25 cm sample in plastic bags for later identification of enclosed arthropods. Arthropods will be identified to order and classified according to length. They will also weigh each substrate (branch or leaf litter) in order to determine biomass of arthropods.

2. Weather Surveillance Radar

   a. The researchers will obtain Level II radar data from the 10 weather surveillance radars surrounding the northern Gulf of Mexico coast during the period of peak land bird migration in autumn (1 September – 31 October 2018 & 2019) and spring (15 March – 15 May 2018 & 2019) migration periods from the National Climatic Data Center (NCDC) archive. Data analysis methods and software are then used to estimate vertically-integrated radar reflectivity as a metric of mean emigrant bird stopover density for a given location. To determine the response of migratory land birds, *vis-à-vis* habitat use, to habitat protection and restoration efforts, the researchers will use the same methods to obtain radar data for the location and duration of particular habitat restoration projects included in the analysis.

   b. The researchers will then compute a relative stopover duration of migrants by integrating the radar and banding station data.

3. Bioenergetics Model

   Data gathered from this project will be used by a co-PI to develop a bioenergetics model that will be used to determine habitat-specific production estimates of food resources and habitat-specific vital rates of migrant birds through refueling rates as well as identify habitat objectives to increase production estimates and vital rates. Areas with estimated energy surpluses will be prioritized for inclusion into protection programs, while areas with estimated energy deficits can be targeted for management efforts.

4. Office activities.

   Office activities will consist of analyzing the field data, analyzing the weather radar data, developing the bioenergetics model as described above. In addition, writing, outreach and publication will also occur in an office setting. At the end of the project the researchers will host a workshop in which they present stopover maps to land managers and

conservation planners and explain how to incorporate these stopover maps and associated energetics model maps into their conservation planning and management actions.

Effects of the Project, Environmental Statutes & NCCOS Determination of Effects:

Endangered Species Act (ESA) Section 7 (a)(2) requires that each Federal agency, in consultation with NMFS and/or the U.S. Fish and Wildlife Service (USFWS), ensure that any action authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat.

As this is a terrestrial project, there are no species under the authority of NMFS potentially affected by this work; therefore NCCOS determines there is no effect on ESA species under NMFS' authority.

The field research activities potentially occur in the range of ESA listed species under the authority of USFWS. The PI has never caught an endangered bird species in 25 years of sampling these habitats. A review of the USFWS' Information, Planning and Consultation System for the possible areas for field studies near the Lake Charles and Mobile weather radar stations indicates a number of potentially listed species in the area (Table 2). In particular, there exists the possibility to capture Ivory-billed Woodpecker (*Campephilus principalis*) in the areas they would be working.

Table 2. Threatened and Endangered Species in the potential field research sites as determined by IPaC. LC = Lake Charles, M = Mobile.

Status	Species Name	Critical Habitat in research area	Site
Amphibians			
E	Dusky gopher frog (*Rana sevosa*)	https://ecos.fws.gov/ecp/species/5600	M
E	Reticulated flatwoods salamander (*Ambystoma bishopi*)	No	M
Birds			
E	Ivory-billed Woodpecker (*Campephilus principalis*)	N/A	LC
E	Red-cockaded woodpecker (*Picoides borealis*)	N/A	LC, M
Flowering Plants			
E	American chaffseed (*Schwalbea americana*)	N/A	LC, M
E	Navasota ladies'-tresses (*Spiranthes parksii*)	N/A	LC
E	Texas Trailing phlox (*Phlox nivalis texensis)*	N/A	LC
Reptiles			
T	Black pine snake (*Pituophis melanoleucus lodingi)*	N/A	M
T	Eastern indigo snake (*Drymarchon corais couperi*)	N/A	M
T	Gopher Tortoise (*Gopherus polyphemus*)	N/A	M

E = Endangered, T = Threatened.

National Historic Preservation Act (NHPA) - Section 106 requires Federal agencies to take into account the effects of their actions on historic resources (16 U.S.C. §470 et seq.). After review of the National

Park Service cultural resources database, there was no historic resources that are within the action area of research activities. Further, no adverse impacts to cultural resources are expected as a result of either research activities, thus NCCOS will not be requesting a Section 106 consultation.

Magnuson-Stevens Fishery Conservation and Management Act (see this) requires that Federal agencies consult with NMFS on actions that "may adversely affect" Essential Fish Habitat (EFH) (16 U.S.C. §1855(b)(2)). As this is a terrestrial project, there are no species under the authority of NMFS potentially affected by this work; therefore NCCOS determines there is no effect on the quality or quantity of EFH under NMFS' authority.

Protected Areas: Of the six action areas listed in Table 1, one is located in a protected area. The Bon Secour National Wildlife Refuge. Researchers have applied for a permit to work within the protected area. The investigators will ensure compliance with all protected area rules and regulations. Investigators will provide copies of permits to the Federal Program Officer prior to initiating fieldwork in the protected area.

Determination Summary and Extraordinary Circumstances

Project activities described above would be temporally (less than 4 months) and spatially small in scale (small footprint of banding and habitat research stations). Investigators have obtained the required federal bird banding and collecting permits for this sampling (Table 3). They have additionally obtained permits required from each proposed action area and will maintain all permits throughout the course of the project fieldwork. Sampling protocols are routine and have occurred hundreds of times in the past. It is not likely that any listed species will be collected because of the habitat being sampled, the sampling methodology, and the rarity of endangered species that are within the range of this work. These activities are not the subject of controversy based on potential environmental consequences and do not establish a precedent or decision in principle about future proposals. There are no uncertain environmental impacts or unknown risks as project activities are routine and non-intrusive there will be negligible impact on geographically or ecologically critical areas, (sanctuaries, wetlands, watersheds), National Historic Sites, and no adverse impacts to marine mammals, essential fish habitat (marsh, wetlands, seagrasses, corals, etc.) or threatened and endangered species or their critical habitat. In addition, activities do not include bird nesting areas, marine mammal nursery or feeding areas.

Table 3. Federal, State and action area permits

Permit Type	**Permit Issuer**	**Permit Number**	**Valid Period**
Federal Bird Banding	U.S Department of the Interior, U.S. Geological Survey	24101	3/16/17 – 12/31/20
State Scientific Research and Collecting (AL)	Alabama Dept. of Conservation and Natural Resources	2017131976068680	7/26/17 – 7/26/18
State Scientific Research and Collecting (LA)	Louisiana Department of Wildlife and Fisheries	LNHP-17-075	7/21/17 – 12/31/17
State Scientific Research and Collecting (MS)	Mississippi Department of Wildlife, Fisheries and Parks	0929171	3/1/18 – 2/28/19
State Scientific Research and Collecting (TX)	Texas Parks and Wildlife	SPR-0917-188	9/12/17 – TBD (no expiration,

			requires annual report)
Action Area	Forever Wild Land Trust Tracts	Jacinto Port and Splinter Hill Bog	3/1/18 – 11/1/19
Action Area	U.S Fish and Wildlife Service	Bon Secour National Wildlife Refuge	TBD

The proposed project activity does not involve air, noise, or water quality impacts; and does not otherwise have a significant impact on the human environment. No adverse environmental impacts are anticipated from laboratory activities. Laboratory activities will follow all appropriate safety and disposal regulations. The proposed project has no potential to generate, use, store, transport, or dispose of hazardous or toxic substances in a manner that may have a significant effect on the environment. The proposed project does not have a disproportionately high and adverse effect on the health or the environment of minority or low-income communities, compared to the impacts on other communities (EO 12898). The project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or involve actions that may promote the introduction, growth, or expansion of the range of the species. The applicants will have approval for all activities regarding vertebrate animals from their Institutional Animal Care and Use Committee(s) under the Animal Welfare Act and related policies and regulations. Thus, there is no potential to violate Federal, State, or local law or requirements imposed for protection of the environment. There are no highly controversial environmental effects. Thus, there are no extraordinary circumstances present that may require further analysis in an EA or EIS.

- Pursuant to Section 7 of the Endangered Species Act (ESA) and the above analysis, NCCOS determines that this project's activities are not likely to adversely affect any listed (threatened or endangered) species or designated critical habitat. On May 31, 2017 NCCOS initiated an informal consultation (Encl 1) on project activities with USFWS. NCCOS received written concurrence that activities are not likely to adversely affect ESA-listed species under the jurisdiction of USFWS. Letters of concurrence were received from the Louisiana (Encl 2) and Alabama (Encl 3) Ecological Services Offices on May 11 and May 23, 2017 respectively. There is a no-snake kill policy in effect for all activities. In addition, all activities will adhere to the terms and conditions of the permits listed in Table 3 and Best Management Practices (Pg. 8)

References

James, F. C., and H. H. Shugart. 1970. A quantitative method of habitat description. Audubon Field Notes 24:727-736.

Johnson, M. D. 2000. Evaluation of an arthropod sampling technique useful in measuring food availbility for forest insectivores. Journal of Field Ornithology 71:88-109.

Mehlman, D. W., S. E. Mabey, D. N. Ewert, C. Duncan, B. Abel, D. Cimprich, R. D. Sutter, and M. S. Woodrey. 2005. Conserving stopover sites for forest-dwelling migratory landbirds. The Auk 122:1281-1290.

Mettke-Hofmann, C., P. B. Hamel, G. Hofmann, T. J. Zenzal Jr., A. Pellegrin, J. Malpass, M. Garfinkel, N. Schiff, and R. Greenberg. 2015. Competition and habitat quality influence age and sex distribution in wintering rusty blackbirds. PLoS ONE 10: e0123775.

Protective Measures and Best Management Practices Incorporated into the Action

In the event of unauthorized incidental take of protected species, NCCOS would suspend all activities causing such take and immediately contact the USFWS (see contact below). NCCOS would request ESA Section 7 reinitiation as required.

USFWS POCs: LA - Angela Trahan: angela_trahan@fws.gov or (337) 291-3137
AL - Shannon Holbrook: shannon_holbrook@fws.gov or (251) 441-5871

BMPs are required to be incorporated within project instructions, research plans and NEPA documentation including financial assistance awards and environmental review memoranda. All applicable BMPs must be communicated to the principal investigators, boat operators and field staff in order to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures.

1) Habitat Protection
   a) Avoid unnecessary contact of gear with sensitive habitat.

2) Protected Area and State Collecting Permits
   a) Required protected area use/access and state collecting permits for each state will be maintained and provided to the Federal Program Officer before field work starts and annually thereafter (as needed) before out-year funds are released.

3) Habitat Alteration
   a) No habitat alteration work will be performed, or at least minimized to the extent practical, during the breeding bird nesting period (March 1 to July 31).

4) There is a no snake kill policy in effect for all activities, if a large black snake is found on the property please contact the USFWS POCs listed above.