

**Preconstruction Surveys for the Federally Endangered  
Yellow-shouldered Blackbird (*Agelaius xanthomus*)  
at the WindMar RE Project, Guayanilla, Puerto Rico**

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## Introduction

A Phase I Avian Risk Assessment (Kerlinger 2003) conducted for the WindMar RE Project in Guayanilla, Puerto Rico, in late 2002 and early 2003 revealed the potential for Yellow-shouldered Blackbirds, a federally endangered species, to be present on site. The species is known to nest along the southwestern shoreline of Puerto Rico in small numbers and in a variety of habitats and situations (Raffaele 1989 and Rivera 1983, approved 1996). Although the risk assessment and the weight of evidence from the risk assessment and previous studies of impacts to birds at wind power facilities suggest that risk to birds is likely to be low, it was determined that preconstruction studies were needed to examine the status, abundance, and use of the federally endangered Yellow-shouldered Blackbird within the boundaries of the proposed wind power project and adjacent to that site. Such information is desired in order to prevent and mitigate potential impacts of the project.

Currently, the Yellow-shouldered Blackbird is not known from the WindMar project site and has not been seen within five miles (8 km) of the site, at least in recent years. The closest it has been observed to the WindMar site is about 16 miles to the west, near Ensenada. The species formerly nested in Yauco, Guayanilla, and east Guayanilla according to Rivera and Ricardo Lopez Ortiz, biologist with the Puerto Rico Department of Natural and Environmental Resources (DNER). However, information found in Raffaele (1989) and statements by Marelisa Rivera, a U. S. Fish and Wildlife Service (FWS) biologist based in the Boquerón field office, during a visit to the WindMar project site, suggests that some of the habitat on site may be suitable for the species. Some of the habitat may actually be undergoing succession, which could make it more suitable for the species, especially as the species expands its range. Rivera is author of the recovery plan for this species (Rivera 1983, approved 1996). Rivera further stated that the species is increasing its range and could colonize the site in the future. Therefore, on-site surveys were needed to determine if it is present and, if so, determine its abundance and use of the site.

This report details a survey conducted during spring 2003 that focused on determining whether federally endangered Yellow-shouldered Blackbirds are present and, if present, where they nest on site and in what numbers. A standardized protocol was devised for use specifically at the WindMar project site. The protocol was submitted to FWS for review and was discussed with Marelisa Rivera of FWS's Boquerón field office. In addition, the standard document for evaluating potential impacts to birds at proposed wind power sites was consulted (Anderson et al. 1999). The methods for this study were simply exhaustive searches for Yellow-shouldered Blackbirds done in a systematic fashion.

## Methods

The following survey protocols were used in spring 2003 to determine the whether or not Yellow-shouldered Blackbirds were present at the WindMar project site near Guayanilla. The same protocols were designed to determine their numbers and location at the site if they were found. The protocols and methods were developed from the literature and interviews with FWS biologist Marelisa Rivera in April 2003.

The project site has been examined by several biologists during the past year on more than 70 occasions without seeing Yellow-shouldered Blackbirds. Orlando Garrido, a leading Cuban ornithologist and author of a book on the birds of Cuba (Cornell University Press, 2003) has visited the site seven or eight times. Alfonso Silva Lee has visited the site at least 60 times. Silva's specialty is not ornithology, but he is a competent biologist who has seen the species in question at several other locations. Paul Kerlinger, the author of this document, has visited the site on five days. John Guarnaccia, former Executive Director of RARE Center for Tropical Bird Conservation, has visited the site about two dozen times. The fact that none of these biologists has observed the bird on site strongly suggests that it does not occur there.

The study commenced with the identification of the areas within the WindMar site that have habitat that appeared suitable for the species (Figure 1). The habitat types to be checked would include the palms and brush along the beach, the forest edge at the perimeter of the wide-open area, and the black mangroves along Guayanilla Bay. These habitats have been used for nesting by the species in other parts of Puerto Rico (as summarized by Rivera 1983, approved 1996). All of these areas are easily accessed and surveyed. During a site visit on April 27, 2003, six survey areas were identified (A-F in Figure 1). These areas included the more open areas that are situated near the ocean between Punta Verraco and Cerro Toro (A), the black mangrove area along the road that traverses the wetlands (B), the rather dry Salicornia wetland interspersed with flats and savannah-like habitat along the road between the mangrove swamp and the agricultural areas (C), the junction of the beach and Punta Verraco roads at the agricultural areas (D), the rather dry Salicornia wetland interspersed with flats and savannah along the road to the beach (E), and the area along the dune between Punta Ventana and Cerro Toro (F). The blackbird is highly unlikely to be present in the dry forest, so those areas were not surveyed.

Yellow-shouldered Blackbirds are relatively easy to identify. Three other all black species are not uncommon on the site (ani, grackle, and cowbird), but all are distinctly different in size and shape from the Yellow-shouldered Blackbird. Therefore, these species are unlikely to be confused with Yellow-shouldered Blackbirds. Male blackbirds display on territories between February and November, although the period that includes April through August delineates safe dates for surveying for nesting birds. According to Rivera (April 28, 2003), the period from late April through June is ideal for surveying for Yellow-shouldered Blackbirds. She further stated that afternoon surveys might be particularly rewarding if the species is present. This study focused on April through June, because the birds are likely to be most active at that time.

The current study was originally designed to include six complete surveys of the suitable habitat areas: one survey in April (completed on April 27, 2003), four surveys in May, and one in the first two weeks of June. The surveys were made at different times of the day so that most

daylight hours are represented, especially those stipulated by Rivera. There was no particular survey strategy or method except to cover the area as thoroughly as possible. The observer drove to and between each of the study areas (A-F). At each area, about 15 minutes were spent scanning with binoculars and listening for the bird's distinct vocalizations. This meant an observer spent about two hours on site looking for blackbirds during a given day. On some days, the amount of time was twice this amount. The observer also walked along the roadways and trails so that the entire area was examined. Binoculars were used to scan for perched and flying blackbirds.

The information was collected on data sheets (Figure 2). The type of information that was collected is summarized in Table 1. The observers were instructed to mark the location of any blackbirds observed on a map of the WindMar area for future reference, along with flight lines and other details that would prove important for finding nesting, foraging, or roosting areas.

If the species was found, its abundance and distribution was to be mapped in a manner that would permit thorough censuses of the suitable habitat(s). Individuals that were found on territories were to be the subject of subsequent visits to determine the status of the individual (whether on territory or simply passing through the site). Territories were to be marked on a map so that they could be found during subsequent trips. Records of Yellow-shouldered Blackbirds were to be reported to FWS (Marelisa Rivera) and DNER (Ricardo Lopez).

**Table 1.** Summary of information that was collected during Yellow-shouldered Blackbird surveys at the WindMar, RE, project site near Guayanilla Bay, Puerto Rico during May and June 2003.

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Observer – observer’s name or initials

Date – month, day and year (4-30-03)

Time Start – time first observations commence (06:00, 13:20, etc.)

WindSp/Dir – estimate of wind speed in miles per hour (can be bracketed – 5-10 mph) and direction in one of 8 cardinal compass directions

Cloud% - percentage of the sky covered by clouds (and note the thickness)

Precip – note if there is light rain (if there is heavy rain surveys should not be done or they should be halted until the rain lessens to conditions where observations can commence again)

Temp – note temperature (bracket if necessary – 32-34 degrees C, 27-29 degrees C, etc.)

Number – observation number (the first Yellow-shouldered Blackbird observation [individual or flock] on a given day should be #1, the second should be #2, etc.)

Time – time of observation (beginning and end)

MapArea – note the letter of the area on the map (A-F in Figure 1) as described in text above.

Numinds – number of Yellow-shouldered Blackbirds observed

Notes – describe what the birds were doing, the direction they flew off in and came from if they were seen flying, whether they landed, whether they were foraging, and where they were last seen. Other pertinent information may also be recorded.

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## Results and Discussion

A total of 15 rounds of surveys at all observation points were conducted to determine whether Yellow-shouldered Blackbirds were present at the WindMar project site near Guayanilla, Puerto Rico (Table 2). The surveys were commenced on April 27 and continued until June 10, 2003. Surveys were conducted on ten different days within that time period. In addition, during more than 100 visits to the site Alfonso Silva, Antonio Perez-Asso, John Guarnaccia, Orlando Garrido, and this author, Yellow-shouldered Blackbirds were not observed. These visits occurred between 1997 and 2003. Garrido visited the site about seven or eight times during 1999-2002, Guarnaccia 25 visits between 2001 and 2003, and Alfonso Silva Lee about 60 visits 1997-2002. All of these observers are either familiar with the species or highly trained, professional biologists and ornithologists.

No Yellow-shouldered Blackbirds were observed during either the surveys conducted in April-June 2003, nor were there incidental observations by several biologists during the past five years. The species is relatively easy to identify and the observations were made during a time of year when these birds are rather obvious and easy to detect. It is important to note that the current observations were conducted during the nesting season when adults and young would have been present (Rivera 1983, approved 1996). If present, these blackbirds would have made frequent foraging trips from the nesting areas and would have been obvious as groups, following fledging. The methods used and sites surveyed were designed to detect these species on the WindMar site and it is unlikely that they would have eluded detection if they were present.

The absence of Yellow-shouldered Blackbirds was not unexpected. FWS had no records of this species from or near the project site (letter from FWS, communications from Marelisa Rivera) nor have the birds been reported from the area during the previous decade.

**Table 2.** Summary of systematic surveys for Yellow-shouldered Blackbirds at the WindMar RE wind power project site near Guayanilla Bay, Puerto Rico during spring 2003.

Date	Time	Number of Yellow-shouldered Blackbirds	Weather
April 27	06:15-08:30 (2.25 hours)	0	ESE-10, CC=65%, 18 C
May 16	09:30-11:00 (1.5 hours)	0	SE-20 kph, CC=0%, 34 C
	14:30-16:00 (1.5 hours)	0	SE-30 kph, CC=30-50%, 34C
May 17	09:30-11:30 (2.0 hours)	0	SE-20 kph, CC=0%, 32 C
	15:00-16:30 (1.5 hours)	0	SE-10 kph, CC=0%, 34C
May 18	09:30-11:00 (1.5 hours)	0	SE-25 kph, CC=40%, 32 C
	13:00-14:30 (1.5 hours)	0	SE-10-15 kph, CC=40%, 34C
May 24	10:00-11:30 (1.5 hours)	0	SE-10 kph, CC=0%, 42 C
May 25	15:00-16:00 (1.0 hours)	0	SE-5-10 kph, CC=0%, 37 C
May 30	10:00-11:30 (1.5 hours)	0	SE-30 kph, CC=20%, 32 C
	16:00-17:30 (1.5 hours)	0	SE-20 kph, CC=10%, 34 C
May 31	10:00-11:30 (1.5 hours)	0	SE-15 kph, CC=0%, 32 C
	14:00-15:30 (1.5 hours)	0	SE-20 kph, CC=0%, 34-36 C
June 1	10:30-12:00 (1.5 hours)	0	SE-10 kph, CC=5%, 34-36 C
June 10	14:00-16:30 (1.5 hours)	0	SE-30 kph, CC=60%, 32 C

Total – Surveys on 10 Different Dates

Total – 15 Surveys

Total - 23.25 Hours of Surveys

## Conclusions and Recommendations

Yellow-shouldered Blackbirds do not currently nest on the WindMar project site and none are known to nest within several miles of the site. Furthermore, there are no historic records from the past decade of the species being present at the project site or in the area immediately surrounding the site. However, there is habitat on the project site that may someday support a nesting population of these birds. As habitat on the site recovers from past abuse, some of the low-lying areas (away from the proposed wind power project infrastructure) may attract nesting blackbirds as their population continues to expand.

Although the current U. S. Fish and Wildlife recovery plan for Yellow-shouldered Blackbirds has not been updated since 1983 (Rivera 1983, approved 1996), much has been learned about the species and its habitat requirements. The information provided within the recovery plan and more recent information (M. Rivera, personal communication), suggests that some of the habitat on the WindMar property could be managed to attract and then support a population of blackbirds. It is recommended, therefore, that a management plan for this species be adopted as part of the Habitat Management Plan being created by WindMar RE for other endangered and threatened species. That plan would assess the needs of Yellow-shouldered Blackbirds, identify the areas where they would most likely commence nesting, and implement habitat management procedures that would improve the habitat for the species. Such management would include the encouragement of favorable vegetation for the species, removal of vegetation that is not favored by the bird (combined with the previous management recommendation), and possible construction of artificial nesting structures.

Should the Yellow-shouldered Blackbird colonize the WindMar RE site, nesting and foraging activity would almost exclusively occur in the low-lying areas outside of the dry forests of Punta Verraco, Cerro Toro, and Punta Ventana. It is in these areas that the proposed wind turbines and other infrastructure would be located. Because Yellow-shouldered Blackbirds are not likely to use the habitats and areas occupied by wind turbines, there is little chance of incidental take to this species resulting from collisions. Therefore, risk to this species is likely to be nil, and impacts to the species from the WindMar RE project are not likely.

### **Literature Cited**

Anderson, R., M. Morrison, K. Sinclair, D. Strickland, H. Davis, and W. Kendall. 1999. Studying wind energy/bird interactions: a guidance document. National Wind Coordinating Committee, WA, DC.

Kerlinger, P. 2003. Phase I avian risk assessment for the WindMar RE, Guayanilla Project, Puerto Rico. Report to WindMar RE, San Juan, Puerto Rico.

Raffaele, H. A. 1989. A guide to the birds of Puerto Rico. Princeton University Press, Princeton, NJ.

Rivera, M. 1983. Yellow-shouldered Blackbird revised recovery plan. U. S. Fish and Wildlife Service, Atlanta, GA. (Approved and signed by Noreen K. Clough, Regional Director, Southeast Region, November 12, 1996)

Figure 1. Map showing the location of observation Yellow-shouldered Blackbird observation points on the WindMar, RE, near Guayanilla Bay, Puerto Rico, April-June 2003. (See methods section for description of the locations surveyed).



