USING GEOGRAPHIC INFORMATION SYSTEMS TECHNOLOGY TO MAP NUTRITION DELIVERY ROUTES, WITH IMPLICATIONS FOR USE IN BIOSECURITY MEASURES

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Abstract

San Diego Zoo Wildlife Nutrition team, responsible for preparing and delivering diet items for the entire animal collection, makes 60+ delivery stops throughout zoo grounds on a daily basis. These stops include areas both in and around wildlife care kitchens and in barns and dry feed storage rooms. Many of these delivery drop off sites necessitate detailed instructions particular to that drop site: specific key or proximity disk required for entrance, vehicle accessibility, adherence to explicit biosecurity measures, etc. To streamline the availability of information required for daily and weekly deliveries, all delivery routes were comprehensively mapped utilizing ArcGIS software.

Three separate delivery routes were considered in this project with the shortest route containing 17 drop sites and the longest route containing a daily average of 50 drop sites. For each of the three routes, exact drop site location as well as a variety of information pertaining to each particular drop site was collected using Esri ArcGIS Collector. The key fields include: assigned location name and abbreviation, area phone extension number and radio call sign, required keys, vehicle accessibility, biosecurity information, various notes on specific delivery and barn instructions, and a photo of the drop site. Each drop site was then assigned a number to allow the delivery driver to flow through the information in the correct order.

The maps and informational graphics developed are applied in the training of new employees and are also used to identify critical points of biosecurity. These maps have been referenced during biosecurity planning discussions to determine where there is potential for cross contamination and/or spread of disease.