

# Wild Pig Damage Assessment App for Apple & Android Devices

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## Abstract

The geographical extent of wild pig damage in California and elsewhere is currently unknown, making it difficult to mitigate and manage losses, and estimate the economic impact on private landowners. Capturing the geographical extent of wild pig damage would allow land managers to more effectively mitigate wild pig damage by allowing identification of specific areas that are conducive to wild pigs.

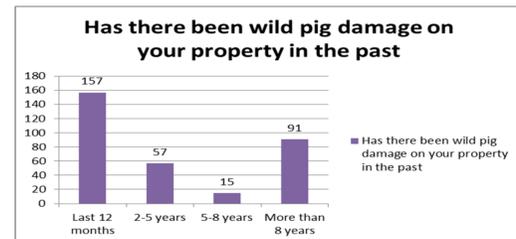
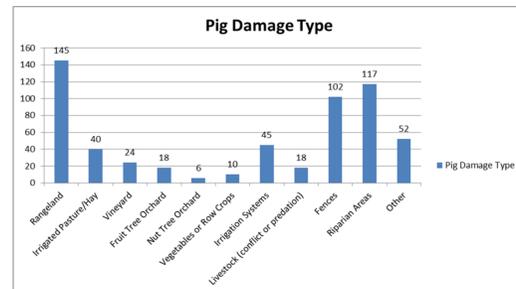
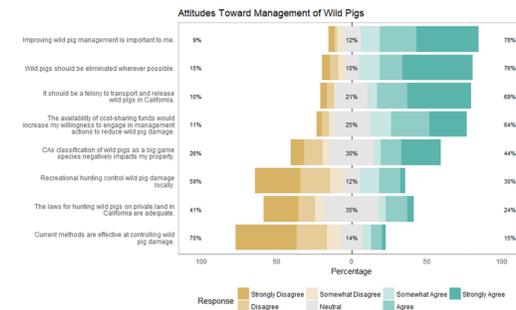
Our team decided to take an innovative risk to capturing the data needed. We believed that through the development of a mobile app for use on Android and Apple devices (smartphones, tablets, etc.) that land managers could quickly assess the type, nature, and extent of wild pig damage occurring on their properties. The app allows the capacity to reach a variety of different types of land managers, including a diverse set of natural resource managers and agricultural producers who are affected by wild pig damage on their property. Results from this project could revolutionize wild pig management by allowing landowners to identify and target control efforts in habitats heavily used by pigs, or by allowing landowners to alter habitats to make them less suitable for this invasive species.

Our team can use the data as a basis to estimate economic losses and impacts on natural resources on private or public property. The potential for long-term data collection is exciting. From the data our team will develop materials like newsletters, trade magazine articles, public brochures, presentation materials, and a website for land managers to learn more about impacts of wild pigs. Results create tools for managers to assess the relative costs and benefits of control actions for wild pig management.

While designed for California, the mobile app could be used anywhere pig damage occurs.

## Background

From 2016 to 2017 a statewide survey of ranchers on wild pig damage was conducted to determine attitudes about wild pigs and the damage they do. Preliminary results are shown in the graphs to the right.

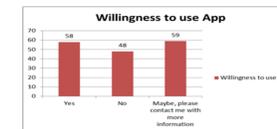
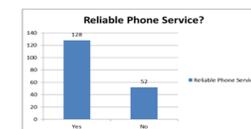
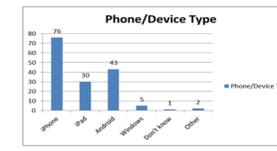
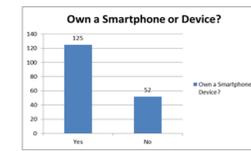


Number of Pigs & Pig Damage in Last 12 Months	
Average number of pigs seen	64
Total number of pigs seen	10,179
Average evidence of new pig damage seen	73 occasions

Estimated Cost to Repair Pig Damage Seen in Last 12 Months	
Average cost for respondents	\$1,629
Total cost for respondents	\$141,705

Estimated Cost to Repair Pig Damage Since Acquiring Property	
Average cost for respondents	\$10,158
Total cost for respondents	\$863,480

We also surveyed ranchers to determine if they had smart phones or tablets, what kind, if they had reliable cell coverage on the ranch and if they would be willing to use a mobile app to collect wild pig damage. The results are shown in the graphs to the right.



## The App

The need and the willingness to use a mobile app to record wild pig damage was clear. Potential app users include: ranchers, farmers, forest land owners, managers, agency personnel (UCCE Advisors, NRCS, Wildlife Services), rangeland consultants and citizen scientists. The app needed to run on both IOS and Android platforms, work on-line and off-line, collect measured area of damage, collect user information and a subset of data from the original survey, measure extent of damage and collect photographs of the damage. In addition, the app would not identify for the public the exact location of the ranch using the app. The following pictures are screen shots of the mobile app released in September 2016 for IOS and Android phones and tablets. The QR codes below will take you directly to the app for your device. It is free to download.



**Completed:** September 2016  
**Available on:** Android and iOS Devices  
 Search for "Wild Pig Damage"



**Main user page**

- Setup user information
- Download data for offline use
- Create a new damage report
- Sync data collected when offline



**Gather basic user information**

- Name
- Address
- Depending on answers to questions more info requested

Attached to all Wild Pig Damage report



**Setup app for offline data collection**

- Download map imagery for app
- Download database to hold offline report

Not needed for online use



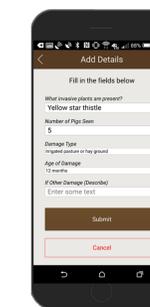
**Gather photos of damage**

- Store photos with the damage report
- Can attach more than one photo per report



**Mark damaged areas**

- Located on the map by your mobile device
- Draw the area damaged
- Instant calculation of acres impacted



**Gather information about the damaged area**

- Whether invasive plants are present
- Number of pigs seen
- Damage type
- Age of damage

QR Code for IOS

QR Code for Android

