

Fossil Collecting 101

Part 1 - FINDING FOSSILS

**Introduction to the hobby and science of
amateur paleontology**

Erich Rose

01/21/2012 05:25

Paleontological Society of Austin

Fossil Collecting 101

Part 1 - FINDING FOSSILS

Where to look

Collecting Equipment

Safety

Resources

01/21/2012 05:25

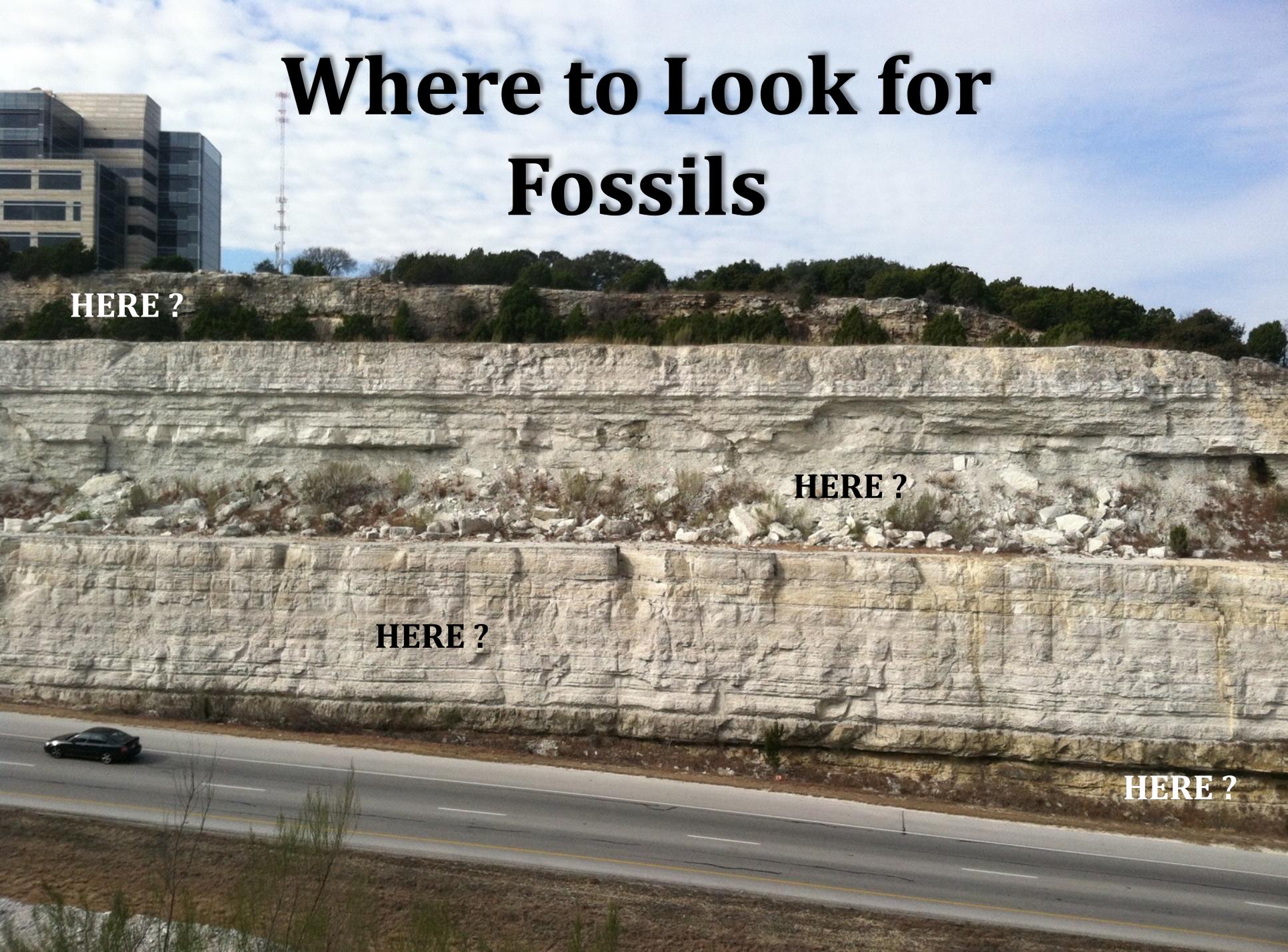
Where to Look for Fossils

HERE ?

HERE ?

HERE ?

HERE ?



Where to look for fossils

- Fossils are found in sedimentary rocks such as limestone, shale, sandstone as well as unconsolidated strata
- Road cuts, stream beds and banks, quarries, etc.
- Public versus private property: know the law and be respectful
- *Never* collect in state or national parks, there are few exceptions
- Geologic bedrock maps and guidebooks can lead you to find good locations, so do some homework

Maps and Guidebooks

- Geologic bedrock maps are available from most state geological surveys, as well as the USGS
- In addition to maps there are many “guidebooks” that have been published with descriptions of locations and geology
- Many maps and publications can be found online for purchase or download
- There are several apps for use on your smartphone that can help with geology such as RockD, USGS mobile map viewer or even just Google Earth
- Other professional groups such as the Geological Society of America or the American Association of Petroleum Geologists publish guidebooks and papers
- Locally the Austin Geological Society has several useful guidebooks

Using Maps

- Learn to read geological bedrock maps
- Sometimes they need to be matched to current road or topographic maps
- Read the written descriptions* of the formations to better understand the maps
- Obtain a dictionary of geologic terms to better understand the language used in the descriptions
- * Maps are seldom 100% accurate, so learn how to recognize when they are off or wrong

Using Guidebooks

- Guidebooks are a tremendous resource since someone else has already done the research
- The newer the guidebook the better, but don't discount older material
- Make sure to check for current status, since what was once open for investigation then, may now be closed or just gone
- Even if a guidebook does not lead to an active collecting site they will give you the information and clues to find new ones

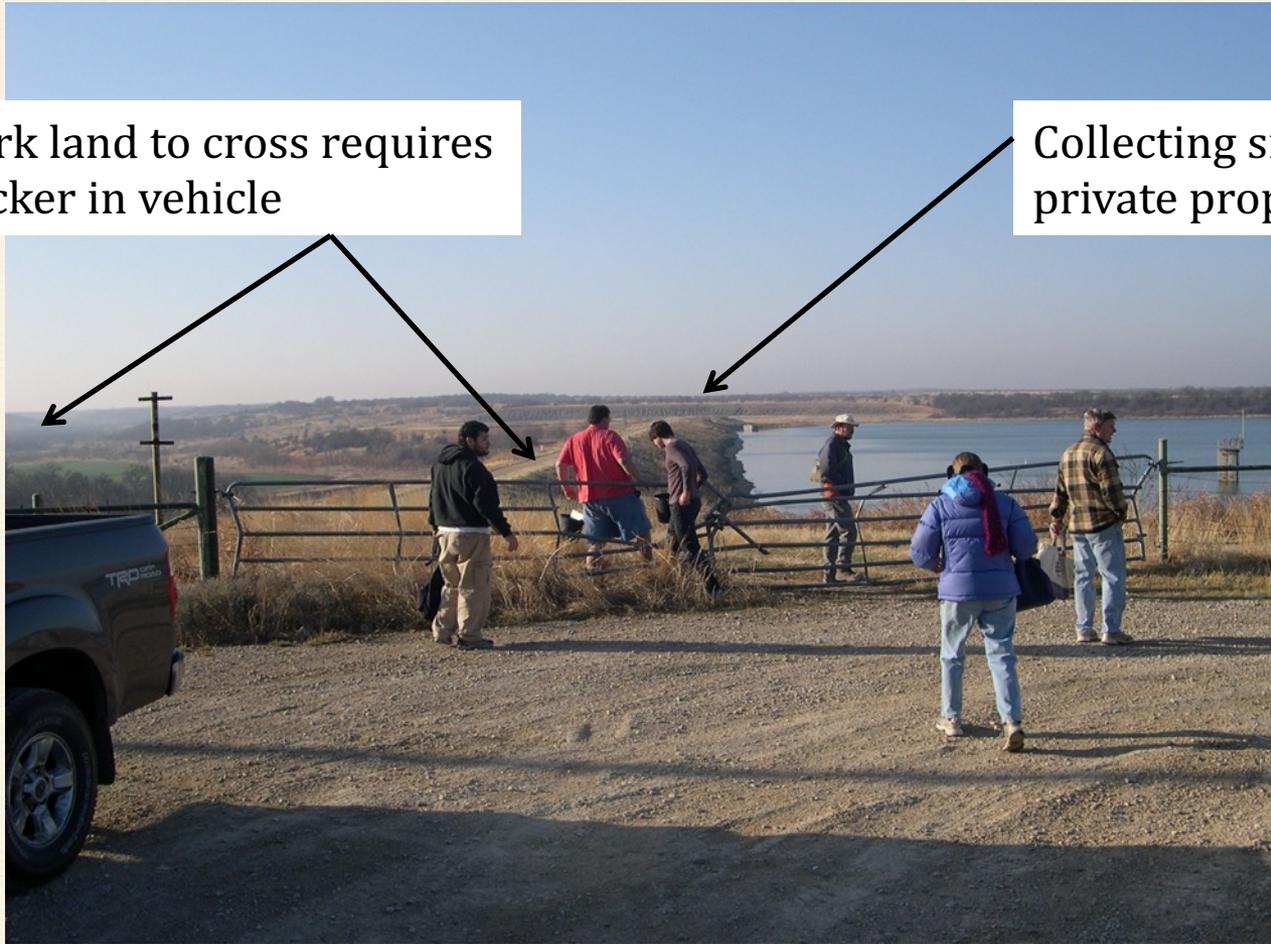
Private versus Public

- *Never* collect on private property without the permission of the landowner
- In general most road cuts are considered OK to collect with the exception of Interstate Highways which are off limits
- Waterways that are navigable are considered open to the public but collecting must be limited to the stream bed, Learn the law regarding waterways
- State and National parks are almost always off limits for collecting (take a camera)
- Some local or regional parks may allow limited collecting, again do the homework
- Almost all Core of Army Engineer reservoirs are off limits with a few exceptions
- Be respectful of every location you collect
 - Do not collect more than you need
 - Never destroy property or terrain
 - Do not litter and when possible take out any litter you find
 - Leave all gates as you find them, open or closed
 - ONLY collect for your hobby, never for commercial gain

Private versus Public

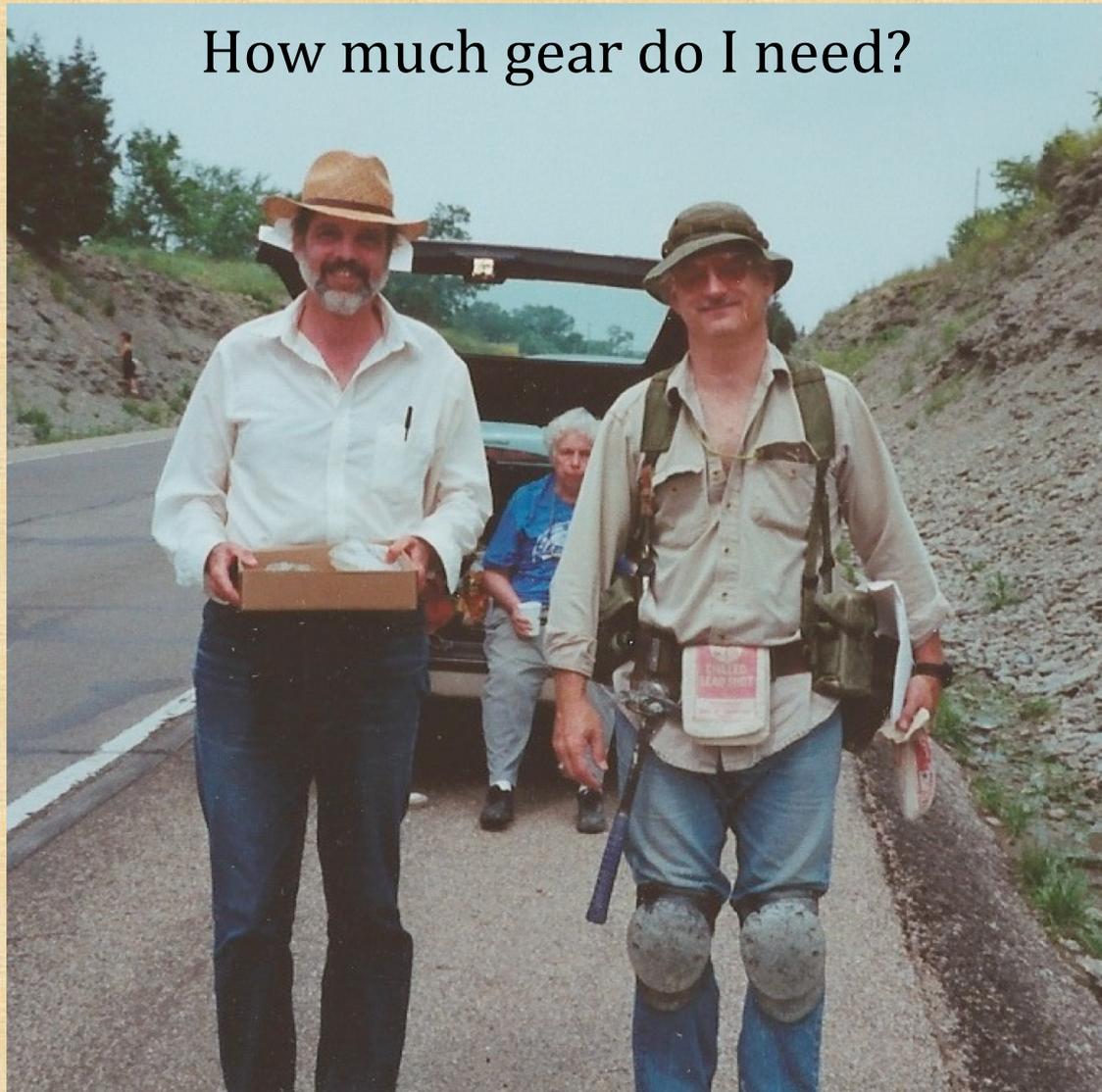
The state park land to cross requires a fee and sticker in vehicle

Collecting site itself is on private property



Collecting Equipment

How much gear do I need?



Basic Collecting Gear

- **Containers:** *Zip-lock bags, small boxes, pill bottles, etc.*
- **Notebook & Pen:** *keeping good notes is most important*
- **Labels:** *paper labels to go with specimens as they are collected*
- **Wrapping Material:** newspaper or bubble wrap
- **Rock Hammer/pick:** many to choose from with pick or chisel ends and of different sizes and weights
- **Sledge Hammer:** for breaking larger rock and driving chisels
- **Chisels:** cold chisels made for stone work only in various sizes
- **Pry Bar:** something to lift or move rocks
- **Magnifier:** 10x or 20x (power) for inspecting small specimens
- **Dust Brush:** wide (3") paint or shop brush
- **First Aid Kit:** band aids, antiseptic, aspirin, etc.
- **Gloves, Goggles, Sturdy Shoes:** safety equipment is a must
- **Carrying Bag or Bucket:** something to carry it all in
- **Water, Food, Comfort supplies:** a hat, sunscreen, bug repellent, TP, etc.
- **Technology:** camera, GPS, geologic apps on smartphone, etc.

Keeping Good Notes

- *Label everything!*
- *Do NOT rely on memory*
- *Take good notes and photos of the locations*
- *Write down, record what you see*
- *Fossils are only scientifically valuable when we know where they were found*
- *Keep a field journal for locations and to record special events or circumstances*

Stay Safe

- **Always let folks know where you are going**
- **Be aware of and understand your surroundings and always check the weather forecast**
- **Water, *water*, WATER! Dehydration can kill or maim**
- **Bring food/snacks to maintain energy**
- **Wear the proper clothing, a hat to keep off sun or rain, sturdy shoes or boots, gloves and kneepads**
- **Carry a basic first aid kit at all times and have a more elaborate first aid pack in your vehicle**
- **Carry aspirin or other pain medicines, be prepared**
- **Learn basic first aid or better yet “back country” first aid**

Resources

- Texas Bureau of Economic Geology: <http://www.beg.utexas.edu>
- Austin Geological Society: <http://www.austingeosoc.org>
- United States Geological Survey (USGS): <https://www.usgs.gov>
- USGS Texas Geo Map Viewer: <https://txpub.usgs.gov/txgeology/>
- American Association of Petroleum Geologists: <https://www.aapg.org>
- The Fossil Forum: <http://www.thefossilforum.com>
- MyFOSSIL Project: <http://www.myfossil.org>
- RockD geo app: <https://rockd.org>
- Google Earth: <https://www.google.com/earth/>
- Excellent Site Prospecting page at the Fossil Forum:
<http://www.thefossilforum.com/index.php?/topic/1325-site-prospecting-101/>

04.26.2010