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**PART 3 COMMENTS ON THE DRAFT GOPHER TORTOISE MANAGEMENT PLAN**

Over the past several years, the Institute has provided volumes of information based on, at the time, on going studies on gopher tortoise management. These studies began as far back as the 1970's when we were asked to dig burrows and to analysis tortoise scat for Walter Auffenberg. They continued off and on as we began to do consulting work and finally began to intensify as we began our work at the Institute. We also began to realize that there were considerable flaws in the FWC conservation effort and we were loosing the battle. We realized a number of things. First, URTD and testing was the foundation of direct and indirect tortoise losses and that the laboratory studies just did not fit what was going on in nature. Second, land purchases and management of tortoise preserves feel far short of expectations. I worked at all the sites sampling tortoises and filed a report on the subject. Third, people throughout the state, from senators to old folks use to eating tortoises and everyone in between were concerned that we were losing the gopher tortoise and all the other species that live with it. FWC had and still has a HANDS OFF POLICY that made it illegal for people to touch let alone try to save a tortoise off the road. We found in fact that there were more tortoises being relocated each year by concerned citizens than all the tortoises permitted by FWC for relocation.

GTCI sponsored two conferences; one was with a number of tortoise biologists to discuss the issues. The result of that meeting has been published in 2004. The second Was the International Roundtable on Chelonian Relocation and Assurance Colonies. This was held in Orlando in 2001. Scientists from around the world contributed to the work and discussions on the issues of relocation and how it could possibly work. Much of the work of the Institute has been to investigate those things that were brought up during these meetings to establish relocation as a primary tool in gopher tortoise conservation in Florida to replace the Incidental Take policy, which was a dismal failure.

The recommendations that we have provided on the proposed management plan are based on the conferences and information provided by researchers world wide and half of two lives working on key issues of tortoise natural history and management that had to be looked at much more carefully if in fact we are going to do this right this time. These included habitat analysis based on the needs of the tortoise, particularly forage and the area required by pods of tortoises, not just individuals. Second was how do you relocate and keep tortoises on site. Simple things like the kind of fencing, we looked at 7 different kinds before coming up with two that would work both for the tortoises and economically. Probably one of the most important things we did was form the Gopher Tortoise Conservation Initiative as a program of the Institute. This program was designed and is working to bring people into the conservation mix. After years of working with conservation programs throughout the world, we knew well that conservation is a people and economic problem as much as a scientific one. We realized that people had no real reference material on gopher tortoises so we took two months to create a Reader's Digest version of the natural history and management book we began in 2001. If we were going to talk about setting up a plan that will sustain the tortoise in perpetuity then we were talking about making a plan that should be economically self sustaining and was based at home, not in Tallahassee. It will be the grandparents and great-grandparents of the children of 2050 that will be protecting the Gopher Tortoise Heritage Sites and their parents are working today to get things changed so they can see tortoises in the wild with their grandkids.

We are attaching number addenda to our comments because much of the information in these documents are pertinent to the recommendations we have made.

## COMMENTS

### MITIGATION FEE BREAKDOWNS

#### The Goal

Under the relocation based conservation program, the goal is to set aside an acre for every acre of tortoise habitat that is going to be destroyed by the development. This includes all tortoise habitat with or without tortoises present. It should include natural and secondary habitats as well. The goal is not to punish developers but to establish a program where FWC and willing local county governments to create a system where there is a plan created where all willing developers work within this structure to replace lands acre for acre and/or contribute to the overall conservation program for gopher tortoises. Where there is no willing county involvement, then FWC works to expedite such a program. **Although the fair market value of the land is the benchmark for the contribution, it is the replacement of the land that is the primary goal.** By working with local government, then this program can work within a conservation lands program, work within county comprehensive plans that call for the development of open space, protection of ground water recharge areas and other similar programs that benefit the citizens and the developers alike.

#### Objectives

1. No Net Loss of the type of tortoise habitat being taken by the development (note tortoises are not just in upland sandhill habitat).
2. No Net Loss of tortoises existing in the county.
3. Establish a program where other listed species that exist within that habitat are part of the negotiations, land acquisition and planning. Note: this may take retraining and cooperation among agencies (FWC, FWS, DEP, WMDs).
4. Utilize the Assurance Colony Program as the backbone of the program. This directs agencies as to the types of preserves that need to be created in the county and region.

#### Funds

1. The goal is to have developers handle and obtain land as individual corporations or as a consortium of developers within a county or region (based on where the land needs are). FWC is a vacillator that is representing the Tortoise, not a bureaucracy.
2. It should be assumed that no species will be maintained on the development site since few landowners have enough land to create sustainable habitats and populations.
3. Funds based on habitat loss can be used for establishing a fund from which the interest will pay for monitoring and management of ALL conservation lands within that county. In some counties, the emphasis will be not land but funding it as tortoise and other species habitat.
4. Funding can go into the key research needed to sustain tortoises in the changing world.
5. Funding should include education of the general public and proactive programs that encourage volunteers to participate in the conservation efforts on conservation lands or in their own neighborhoods (see Assurance Colonies, in pt. 2).
6. Unless the funds are coming where a county has not agreed to participate, FWC should extract only those fees that cover expenses of establishing a contract with developers and to permit and manage the relocation program. If the county has not agreed to an MOU or established compatible rules, then FWC will take over this responsibility and funds. If the county appears to be willing, then these funds are used in the county for land purchases in the future.
7. A part of the agreement with FWC, counties will establish an overhead cost to cover staff that carry out management and monitoring of conservation lands, over and above that

which is covered by the legislation that established the conservation lands program. (E.g. counties will not be burdened with additional expense.)

8. Other State Agencies within a county such as a state forest should be encouraged to participate. In this case lands could be added to the forest lands, or funds go into the management, monitoring and public use and education of these sites that go into the Assurance Colony Program. In this case the state agencies would be compensated similar

## FUNDS FOR RELOCATION

These funds are entirely separate from Land Loss commitments. They are to pay for the development, monitoring and management of permanent tortoise relocation sites under the Assurance Colony Program. Funds pay for the extraction of the tortoises and other protected species and the placement to the properly prepared sites. **Note that this does not include the 5 or fewer permit which is discussed in Part 2. A relocation site should be established by willing agencies or local government to handle these tortoises as they are brought in.**

1. The cost is based on the number of tortoises and other protected species on the site. This cost includes:
  - a. Permitting fees that cover expenses for on going monitoring of the site to insure that the current and future management plan are drawn up and followed. These fees may go to FWC or the County or Cooperating agency (DOF). **THIS PART OF THE COST SHOULD BE BASED ON THE REAL OR ESTIMATED COST FOR ALL THE POINTS BELOW AS WELL AS THE ACTUAL EXTRACTION AND RELOCATION FROM THE DONOR SITE. THIS DOES ON INCLUDE THE FEE THAT GOES TO THE LANDOWNER OR MITIGATION BANK. THIS COST IS NEGOTIABLE BETWEEN THE DONOR SITE AND RECIPIENT SITE OWNER.**
  - b. Site identification and prescribed site pre-relocation management. This includes properly done site evaluation for forage, canopy cover, burrow sites, current and future land use (egg silviculture) to insure compatibility, and the establishment of a permanent monitoring program for habitat and tortoises (and other protected and relocated species.) Note that the habitat should be pre-managed to reach the level of at least 3 adult tortoises per acre and 4 would indicate excellent habitat (this should be done according to Ashton and Ashton (In press). It should be noted that we are establishing the last habitats for these listed species and cutting corners on site prep, monitoring and management will lead to more costly issues in the future.
  - c. Site prep includes fencing of the actual relocation site. Note a large piece of land may have more than one or more fenced sites. A 40 acre site may have 4-10 acre sites. These allow for varying numbers over time of tortoises into the fenced areas which remain so for 6 months after the last tortoise is placed.
  - d. Pending on the size and situation, the whole site may require permanent fencing, exotic management and an approved long term management plan that will take into account encroachment of development.
  - e. The real costs are established by the landowner or their representative. **Note that a county, or consortium, or private mitigation bank would be a very effective way of keeping costs down and controlled.**
  - f. **FWC costs should be based on their role in this effort. Again if there is no willing county or agency to cover the permitting and monitoring of the relocation sites the FWC extracts fees related to the costs of proper evaluation and monitoring.**

## TRAINING AND CREDENTIALS OF FWC AND OTHER AGENCY STAFF, CONSULTANTS AND QUALITY OF MITIGATION WORK

GTCI has been traveling throughout the state and meeting with all of the various stakeholders over these past 10 years. One of the major complaints, even from FWC staff is the poor quality and accuracy of the work that is done by consultants. In fact, in checking with burrow counts, we find

the average error is 30% under counting. The use of burrow scopes and/or poorly trained backhoe operators to determine presence or absence causes the entombment of as much as 40% of the tortoises on site. The calculation of tortoise habitat may be as much as 50% in error.

#### Reasons for This Condition

It is easy for us to blame the consultant for doing less than professional work because they are being paid by the developer that would surely like to see fewer acres of habitat and tortoises on their site or, they are not trained properly to start with. Although both of these are true to some extent and commented on later, there are some key issues that must be resolved before we put the blame on the shoulders of the consultants.

1. The methodologies that are outlined in Cox, ET. Al (1986) and others that are given out by FWC, simply are the major cause of the poor results and data received. At their initial presentation, biologists were promised that errors would be corrected before publication and they were not and we are living with them today. Also, we know far more about tortoise natural history than we did back in the 1980's thus making the methods even more in error. **The Institute has studied many of the methods required to undertake surveys, trapping, habitat monitoring, excavation and relocation. We will provide these once again. In the past the methods were based on methods done in research, not in the arena that had to take into account costs and marginally trained people undertaking them in all types of tortoise habitat. THESE METHODS NEED TO BE PUT INTO PLACE AND REQUIRED. THE RESULTS SHOULD BE MEASURABLE AND EASILY CHECKED.**
2. One of the surprising things that we have found is that very few staff at FWC, counties, or other agencies REJECT REPORTS no matter how bad. **REJECT REPORTS WHERE METHODS WERE WRONG, WHERE PEOPLE TRY TO COUNT BURROWS AND KESTRELS IN JANUARY FOR EXAMPLE.** Rejection should include notification of the landowner (who is paying the bills). There is no reason not to use GPS to mark burrows as well as marking the burrows so they can be easily spot checked by staff.
3. FWC, county and other agency staff must have training in tortoise natural history and all the mitigation methods. **FEW IF ANY FWC STAFF DEALING WITH TORTOISES HAVE HAD TRAINING IN TORTOISE NATURAL HISTORY AND MITIGATION METHODS.** This leads to poor evaluations of data. FWC staff who works with landowners on contracts need to have full knowledge of the species so discussions can go on and there is flexibility in discussions but decisions based on the protection of the species.
4. **PERMITTING REQUIRES WELL TRAINED STAFF that can use their knowledge to make reasonable alterations and changes to permits and respond to applicants on a one to one basis.** Current permitting has been reduced down to how you fill out your application not what is in it. **EXAMPLE:** In many cases 2 tortoises per acre in a relocation enclosure is not cost effective, however it is the only density accepted no matter how good the forage and habitat is. **RECOMMENDATION:** For relocation sites, there should be a written agreement or contract to avoid the TRAP of permitting for permit sake instead of answering the question **WHAT IS THE CONSERVATION VALUE OF THE ACTION?**
5. **INDIVIDUALS IN CHARGE of a project should have a minimum level of training in field biology as well as considerable knowledge of what procedures they are managing.** The Institute has been conducting several professional level training programs a year that cover all of the mitigation methods required. We have provided FWC with a profile of the consultants that are doing tortoise and other protected species. In people who are senior scientists level and/or work at least 50% of their time, less than 5% have had any field methods courses, less than 2% have ever read anything on tortoise biology except Cox. Nearly all received on the ground training from backhoe operators who had no training themselves leading to more than 70% digging incorrectly endangering both tortoise and consultant. 90% dig with toothed buckets on the backhoe. More than 60% say that their firms send hourly untrained staff to do surveys.

Multiple attempts to work with the environmental association proved fruitless, even going through regional officers were fruitless. However, the Institute has conducted workshops for nearly all the regional environmental organizations.

## RECOMMENDATIONS

All staff who work on permitted work be listed on that permit and must have minimal training. That training should be an introductory, hands on course that covers all the basics from surveying to excavation. Senior scientists should have at least 2 years of experience or an internship with someone trained in the proper procedures, especially in excavation. People managing relocation sites must have some botanical training as well as field biology, and habitat management.

There are several thousand environmental consultants in Florida. Several hundred have participated in the Institute's three day program that introduces with hands on experience and detailed natural history explanations as to why we do what we do. These and or similar courses with hands on field activities should be offered throughout the state. It should be pointed out again that the combined training and demand for quality work will begin to eliminate the loss of tortoises, potential loss of human life, and habitat.

## DISEASES AND OTHER HEALTH CONCERNS

The section on these topics in the Draft Management Plan did nothing to either educate anyone about the history or impacts of URTD or did it reflect the input from outstanding scientists that have already submitted the comments on this topic months ago when the announcement was being developed by FWC on the new testing policy. Dragging up URTD is simply keeping the tail alive and masking the real need for what needs to be done to insure we can properly manage this species as we create island habitats and change the very nature of the air and water that tortoises must survive in. Having discussed this topic with several wildlife veterinarians working with tortoises and other chelonians the following lists the highest priorities of study to help insure that we can handle the husbandry of this species in perpetuity.

### 1. FORAGE

We now know much more about the great diversity that is eaten by gopher tortoises. We are also learning that other savannah species of tortoises world wide are eating the same families and genera as gophers. However, out of the 500 plus species we know they eat over their range, what are the ones that are required. We can learn much from the research on range cattle since they too eat the same species. However, we know tortoises are extremely particular as to when and what parts of plants that they eat. We know too that forage in each age class is different. Seasonality of forage is tremendous and likely based on forage biochemistry. We have seen tortoise damage plant and come back to eat them. Are they getting the plants to generate antibiotics? We need to study the biochemistry of the plants tortoises eat, when they eat them, not plants that we collect on our time schedule.

### 2. WATER QUALITY

Tortoises spend 80% of their lives in a burrow that ends in the ground water table. Numerous studies done in Florida have indicated that many areas are contaminated with plumes of water coming from septic tanks. We have observed a complete lack of commensals in whole areas surrounding golf courses. Is there a pesticide in the ground water? Perhaps some toxins are not strong enough to kill the tortoise outright but may reduce fecundity or cause the tortoise to be stressed and susceptible to other diseases. As we are excavating tortoises across the state, now would be the time to gather the samples to begin such studies.

### 3. SOCIAL BEHAVIOR

We now know that gopher tortoises are communicating with each other using low frequency or infrasound. Our up close and personal observations over the past 11 years

have shown us that there is a social order to things which leads us to looking at burrow use and development differently than some of the population modelers have tried to demonstrate.

4. AGE AND GROWTH

We learned in 2003 that you cannot use the rings on the scutes to tell the age of a tortoise. IF we can't do that we cannot answer the question, how long do they live, how long does it take to mature, and reproduce? These are key data in determining viable population sizes.

5. ECTOPARASITES

At certain times of year and in certain years various species of ticks invade tortoise burrows and tortoises. The question is, are these stressors and affect the tortoises. Some bite people and can spread human disease. This has been identified only. We have no idea if this is important.

6. BROODING HABITAT

In 2003, we found the first acre sq habitat that we have named "brooding habitat". This habitat is covered heavily with various species of weeds including blackberry, Smilax, and other vines and is so thick it is virtually impossible to walk through. This habitat had 6 tortoises per sq. m. All the tortoises were from hatchlings of the year to subadults. No adults or burrows were found. All tortoises were burrows horizontally into the ground like Testudo and other tortoises dig that do not have burrows. Since that time we have found two others each with 4 tortoises per sq. m. At least two others have been reported by consultants that were doing excavation and accidentally found the tortoises in these thick habitats which are normally not even considered for tortoise burrow habitat because of the denseness. We took 38 tortoises from the initial site indicating that no matter where these occur they must be extremely important in the survivorship of young tortoises. This habitat needs to be studied and better described. Where found, they should be protected from too frequent a fire.

## INCIDENTAL TAKE

There is no need for Incidental Take permits as we currently have them. If the FWC would end IT in June and worked with people throughout the state by changing certain points on relocation, like maximum densities, there would be ample room to relocate tortoises in a proper manner. Extending Take through a period of time or giving people extended permits is simply unethical and demonstrates no conservation value at all.

## RECOMMENDATIONS

STOP ALL ISSUING OF IT PERMITS beyond June 1 effective immediately.

FWC should provide up to \$1000 per day from the IT fund for rescuers to relocate tortoises from lands that were provided an IT permit. To obtain this money the rescuers must have a proper fenced recipient site. This will send the proper message to the general public about the FWC attitude about conserving tortoises and human safety.

Only issue permits that allow planned take within 25 ft of the burrow and accidental take of tortoises and burrows after a well planned application has been approved.

Provide accidental take clauses in excavation and other permits where tortoises may be taken during other tortoise mitigation activities.

FWC makes the recommended changes in relocation and encourages agencies, counties, and private landowners to move forward with organized relocation programs before the spring relocation season begins.