

KISC MEETING

Approved Meeting Minutes

Thursday, November 19, 2009
HDOA Conference Room
10:00 am to 12:00 noon

I. Welcome/Introduce Guests/New Members

[Attendees: Tim Flynn (temporary KISC Chair, NTB), Rob Hauff (DOFAW-Honolulu), Tiffani Keanini (KISC), Valarie Jackson (KISC-AmeriCorps Intern), Craig Kaneshige (HDOA), Joseph Aguon-Kona (KISC), Cleve Javier (KISC), Richard Agor (KISC), Andrea Erichsen (DOFAW-Kauai Seabird HCP), Mugs Kaneholani (KISC), David Manguchei (DOH-Vector Control), John Chapman (KISC), Lex Riggle (NRCS), Carl Berg (Hawaiian Wildlife Tours), Roy Yamakawa (UH-CTAHR), Chris Mottley (DOFAW-NARS), Pat Porter (DOFAW-Forestry), Kanoe Woodward (DOFAW-NARS AmeriCorps Intern), Cava-Lei Wilson (DOFAW-NARS AmeriCorps Intern), Ken Taylor (private citizen)]

II. Review Agenda Items

III. Review and Approve Minutes from April 16, 2009 Quarterly Meeting

Minutes were approved unanimously with slight revisions. These can be viewed at <http://www.hawaiiinvasivespecies.org/iscs/kisc/pdfs/kiscmeetingminutes20090416.pdf>.

IV. Guest presentation: "Developing a plant collection acquisition & retention policy for a decentralized botanical garden" - *Paul Massey, Director, Regenerations Botanical Garden* (Unfortunately, Paul was sick and unable to be at today's meeting. We will try to reschedule this presentation for another date.)

V. Updates:

- Partner Updates:

- **CTAHR- Roy Yamakawa, Island Administrator**

The recent news is that KISC has moved up to the CTAHR station in Wailua. We are trying to build partnerships with other groups and KISC is a good partner. We share similar skills and can help each other collaborate on projects. [KG: This was such an awesome opportunity for KISC. From beginning negotiations with Roy, to moving into the site, the whole process took about 5 months. We are excited to be up in Wailua and to be collaborating with all of the expertise available there. We hope that KISC can be a valuable partner and to help increase capacity for them as well. Thank you, Roy!]

- **DLNR – Kauai Seabird HCP - Andrea Erickson**

We are finishing up the draft of the Habitat Conservation Plan and hope to have it done November 30. We have been meeting with applicants, doing outreach on light mitigation, and are in the middle of hiring a 3rd person with a planning background. We are moving our offices into a bigger space (right in the same area in Lihue on Rice Street). Check out their website at <http://www.kauai-seabirdhcp.info/>. [CarlB: Do you have an overview of the Shearwater count?] [AE: I haven't looked at it closely, but it is under 250 for the shearwater. It has been a low year for pick-ups. It may be a low productive year.] [KG: For clarification, are we talking about downed birds turned in?] [AE: Yes] [CarlB: What % of these birds survive?] [AE: It is very high; over 90-95%] [CarlB: Has DLNR been conducting their radar surveys?] [AE: Yes, they have been surveying 18 sites. Nick Holmes says that these birds are presumed to be adults and the volume of birds is lower this year which may be due to fewer breeding.]

- **Hawaiian Wildlife Tours - Carl Berg**

On Saturday, from 9 am to 1 pm at KCC, the Surfrider Foundation, KCC and UH Sea Grant is hosting a presentation on Global Warming. There will be presentations

on rainfall, stream flow, coral reefs, sea level rise, and coastal erosion. It will be the first time in the state for a presentation to lay-people. It is designed to give the community an idea of what to expect. 112 people are pre-registered. There will be live streaming at www.ustream.tv (type in Kauai Climate Change). This should also be available after the event.

On another note, there may be funding opportunities available and I would like KISC to look at invasive species in estuaries and streams, like mangrove. The Department of Health has Section 319 funds (for Polluted Runoff - Nonpoint source pollution) that may apply to this type of project. [ChrisM: There seems to be no storm-water control, swales, or polymers in place anywhere on Kauai to control runoff.] [CarlB: This last rain that we had was a "100 year event" and no amount of preventative measure could have mitigated it.] [ChrisM: But there is no storm-water control in the interim. Without it we are going to continue to have consistent and on-going damage.] [CarlB: In Hanalei we have been doing studies and found that the mud on the reef is coming from the taro fields (which got there by big floods). We found nickel, copper, and cadmium from the roads in that mud.] [ChrisM: Every construction and agricultural site should be in accordance with Federal laws and have permits to prevent storm-water flow.] [RY: All of this mud is from the Taro fields? I don't feel that this is necessarily the case.] [CarlB: The mud is coming from the mountains into the flood planes (where the lo'i are) and get rinsed out into the ocean on big rain events. We need to correct the problem at the source by removing invasive species and planting native plants.]

- **HDOA - Craig Kaneshige, PPC**

Nettle caterpillar - We have been busy conducting surveys w/pheromone traps and so far we have no known introductions.

Varroa and tracheal mites - There have been neither of these mites detected during our monitoring. From July - September we set out 70 swarm traps (mostly by ports of entry).

Citrus greening - It is still unknown to Kauai. We do, however, have the vector (the Asian Citrus Psyllid).

We have been having a lot of ant calls but they are turning out to be mostly tropical fire ant (*Solenopsis geminate*). We are seeing it more and more and recently got calls of stinging ants at Poipu Beach, Russian Fort, and Koloa Mill. The survey turned up 5 different ants, but no LFA. [TF: This year at the corn maze in Koloa they were telling people to not cut through the maze as there were stinging ants on the corn.]

Staffing decreases due to layoffs means that we are losing Anita and December 4 will be Eric's last day. Plant Quarantine had 3 people but Ed Pickop is retiring, which leaves only two.

Lastly, containers being moved to Hawaii pose a huge risk for hitch-hiking species. KIUC recently imported rolls of electrical wire and a new wasp was found in them along with black widow spiders. These wasps have black wings and copper-colored abdomen and came from Oregon. It stings and bites. [RY: Are they established on Kauai now?] [CK: Don't know. But we worry that Varroa mite might come on insects like that.]

- **HDOH - Vector Control - David Manguchei**

For background, Vector Control's function is to respond to disease outbreak (like Dengue Fever, Leptospirosis, etc) by conducting trapping, spraying, and surveillance (as in mosquitoes). They also do mosquito control for communities to keep the nuisance level down. VC branch was hit hard by layoffs; 60-70% of their branch was RIF'd (reduction if force). UPW is still going through contracts, but notice has been given. They now need to reorganize because with their remaining staff they are almost non-functional. They will not be able to respond to complaints (dog odors, rats, mosquitoes) or do any West Nile Virus surveys.

Normally, they conduct WNV surveillance at the airport and Nawiliwili port with light traps and gravid traps. They set up to catch 24/7 and collect twice/week and send specimens to Oahu for testing. Funding for this came from HISC funding and this is all stopping. [KG: KISC's dead bird/211 funding has also stopped and there will be no more dead bird pick ups after December (except native birds and feral chickens with USFWS).

[RY: Do you go to the beach parks responding to the flies?] [DM: We only go if someone calls with a complaint. We'll give recommendations on how to remedy the problem; we won't treat. If Dengue is reported they will go out to the site (where the victim lives) and treat a 25 yard radius using a fog. They will also survey a 200 yard radius (100's of homes) surveying each home and talking to each resident looking for buckets, tires, bamboo, etc (all mosquito problem areas) to try to dry up everything and stop the breeding.] [ChrisM: Is Denque prevalent here on Kaua?] [DM: We have had some cases. The cases were all contracted in other countries but it can be transmitted here via mosquito.]

- **CTAHR-Plant Pathology - Jeri Ooka (report attached)**
- **NRCS - Lex Riggle**

NRCS works with farmers, ranchers, and land owners to address conservation issues. There are conservation programs for financial incentives to help. For addressing unwanted plants we have 66 contracts going. These are multi-year. 21 of the 66 involve removal of unwanted plants. Other programs are brush management, pest management (for herbaceous plants), and restoration of rare and declining habitat types. Treatments can be as long as 3 years (due to the persistent nature or seed banks). The projects go from coastal zones to the top of the mountain. [KG: are these programs available for work on State land or only privately owned?] [LR: Only private lands right now, but we are currently getting a waiver so that they can be used on State land.] [TF: Can they be used on Mangrove?] [LR: Possibly. We would have to prove protection of native species or habitat.] [TF: There has been a paper written on fish ponds showing that native fish species were more abundant in ponds without mangrove. It would be a place to start.] [LR: It is worth discussion.]

- **DLNR-DOFAW-NARS - Chris Mottley**

We have just acquired 3 new Americorps interns. Work has been focused on pre-fabbing a platform to build a wetland shelter. 12K lbs of materials were brought by helicopter to remote areas in preparation of fence building. We also built another shelter with the help of the Watershed Alliance.

We are adding an acre to an enclosed area using panel fencing. We are able to put up about 80 ft. /day. The fence will capture 7 more *Kokia kauaiensis*. We are also beginning an 80 acre fence in Kawai'ula where we recently located some rare plants, collected seeds, and conducted weed control (lantana and strawberry guava). We hope to have it set in by January. [TF: Are you growing these seeds out in Kokee?] [ChrisM: We are sill documenting seeds. Kokee might be too low of an elevation for them.] [TF: Are you planning on doing removal of invasive species inside the fenced area?] [ChrisM: Removal is ongoing, whether the fence is there or not. It is an ongoing process. Once the fence is build we can go in and get what we can. Wasps are a problem.] [JsphAK: What about deer?] [ChrisM: They have one fence line with a trapped deer and are working with wildlife division to get it out. This new fence will trap a huge amount of big game - they have removed the cows already.]

- **DLNR-DOFAW- Thomas Kaiakapu (report attached)**
- **DLNR-DOFAW - Rob Hauff (Honolulu)**

Rob works in the Honolulu Administration offices and works with Mindy (DOFAW) and Patrick Chee (HISC). He is a forester by training and works as the Forest Health Coordinator working with disease and insects that impact the forest. He also helps to keep the Federal funds flowing through to various programs. He also manages the stimulus funds; which some of that money is coming to KISC and hopes it to be a helpful boost. The Forest Service will be monitoring each island where their funding is being used. The ISCs are a strong program and we just need to ensure that everyone is meeting reporting requirements for transparency. Most states got no stimulus funds and Hawaii got \$4.5 million.

One project that he is working on is a partnership with HDOA. Promoting early detection (by landscapers and arborists) in unknown forest landscapes; reporting pests for early eradication. Outreach has been an important part of this project and a logo has been designed for the Pest Hotline and a brochure is being finalized highlighting 5 pests not on Kauai; palm pests, naio & scale insects. He is working with HDOA to get the word



out to be aware; if you see something, report it. On the mainland one of their high profile plant pests was there a long time before it was detected (it was 10 years before the Asian longhorn beetle was reported!).

Ohia rust: a pest, not a biocontrol. This was not intentionally introduced. Rob has been working with the Forest Service on this pest. There are mainland researchers doing molecular level studies on different strains. Strains behave differently and the host range varies. If another strain arrives to Hawaii it may defoliate Ohia. They are doing genetic mapping, seeing what strains affect what species and they are starting to inoculate Ohia. He is also helping with quarantine rules and hoping that HDOA will establish a permanent rule restricting plants that could be vectors.

Rob is also working with HDOA on a parasitoid bio control for the Erythrina gall wasp. They are now conducting post-release monitoring and the results are great. They are spreading on their own. Monitoring on Maui found them in Keanae some time after they had been released in Kahaului. On Kauai, they were released at NTBG (on the south shore) and have been found at Limahuli. They have been showing that they are reducing the number of gall wasps by 90%. Naturalized populations of wiliwili are just starting to leaf out right now. It will be interesting to see if they are able to retain their leaves through the growing season.

Bio-control efforts for strawberry guava are still ongoing. The Forest Service has met with HDOA and HDOA will submit the EA. They are hoping to release the insect the 1st half of next year. Kauai's hunters expressed concerns at a meeting held here. The impact of this biocontrol on fruits, and hunting pigs, will be insignificant. They are trying to address all concerns. The initial release will be on the BI. They will monitor for a couple of years before bringing it to the other islands although there is nothing regulatory to stop introductions on other islands.

- **USFWS - (West Nile Virus, Avian Influenza) -Josh Fisher (email attached)**
- **TNC - Jeff Schlueter (report attached)**
- **Coqui Control in Lawai – Keren Gundersen**

The crew continues to work at the frog site in Lawai two nights a week. They start at 1:30 in the afternoon and work until 10:00 pm. Our strategy is to continue conducting sweeps with citric acid as ground drenches during the day as well as maintain weeds and tree re-growth with herbicide to minimize coqui habitat. At night the crew surveys the site and hand-captures any frogs they are able to.

The crew only hears "countable" frogs which are mostly located around the one property that we do not have access to. There seems to be a repeating pattern of frogs breeding and re-entering the original infestation area from this one property. I spoke with George Costa, Kauai's Director of the Office of Economic Development who is a close friend of these property owners. He said that he would try to intervene on our behalf so that we can drench this area with citric acid to stop this reproductive cycle. He has not gotten back to me yet regarding his efforts. If this fails, we will attempt to convince the Mayor that access is needed to protect the county's investment in this project.

Over the last several months KISC has also responded to and killed coqui frogs at five separate sites outside of the Lawai area. These frogs were introduced to Kauai from the B.I. on plant material. Surveys also continue at these locations to ensure that no other coqui are present. As the frog populations become denser on the Big Island, more and more frogs will be expected to hitch-hike on things being shipped to other islands. Outreach and additional surveys will be imperative.

- **Miconia update - John Chapman, KISC Data Tech**
KISC's new Data Tech gives a brief update on work being conducted on Miconia. Recent aerial surveys revealed tall plants and ground-truthing was able to eliminate the plants just before seeding. Check out this power-point detailing maps with photos of plants.
<http://www.hear.org/kisc/presentations/20091119kiscmiconiaupdate/>.
- **Training, Projects, and Outreach - Tiffani Keanini, KISC Outreach and Project Facilitator**

Since April of this year, KISC has participated in CPR and 1st Aid training and also held Basic Aviation Safety (opened to all partners).

We are also launching our 3rd Wailua Homesteads miconia survey (which John just spoke about). We have revised the list of lots to search and we hope to have this survey done by the 1st quarter of next year.

Tiffani is also working on a Service Learning Project with 4th graders at Eleele Elementary School. It is a “Hands-On” experience identifying and removing invasive species and replanting with native species. We hope to be completed in May, 2010.

Outreach events this year have included: Garden Fair, Banana Poka Roundup, County Fair, the new Farmer’s Market at KCC, the Seed Exchange, and Arbor Day where we had over 700 people come through! Tiffani is also working with the HISC Public Outreach Working Group on state-wide priorities including a Hawaiian Early Detection Network.

If anyone has any project ideas, please get in touch with her (tkeanini@hawaii.edu).

VI. New Items:

- Funding/Budget Update – *Keren*

	FS	USFWS	DLNR	HISC	COQUI	County	Totals
FY2007	\$98,000	\$0	\$2,000	\$150,000	\$50,000	\$320,000	\$620,000
FY2008	\$85,000	\$0	\$0	\$270,000	\$100,000	\$0	\$455,000
FY2009	\$82,276	\$55,474	(For Early Detection) \$102,000	\$375,000	\$0	\$0	\$614,750
FY2010	\$87,352	\$50,000	(Stimulus Funding from FS) \$170,000	\$90,000	\$0	\$0	\$397,352

As you can see, this year we received from HISC 24% of what we received last year. This is because the HISC total funding amount was reduced from \$4M to \$2M. Along with this reduction, the HDOA requested funding to help retain PQ inspectors. Some ISCs got up to 50% of what they had received in previous years and so those ISCs have agreed to make up for our loss with some of the stimulus funds.

Additional funding for FY10 may also include a competitive grant from the Forest Service (\$300K shared with the ISCs over two years), funding from USFWS for work on private lands (\$1M shared with CGAPS and the ISCs), funding from DLNR for non-plant work (i.e. coqui, insect surveys, etc - amount to be determined), and additional stimulus money from the Forest Service (to be applied next year).

VII. Announcements:

- 11-19-09, 6:00 pm, Lecture at NTBG: Plight of Kauai Forest Birds.
- 11-19-9-09, 6:00 - 9:00 pm, Meeting to discuss landfill placement, Kalaheo Elementary School cafeteria.
- 11-21-09, 9:00 am to 1:00 pm, KCC, Presentation on Global Warming

Next Meeting – March 18, 2010 (3 meetings per year?)

Pau

Project Summary

Rhodomyrtus tomentosa biocontrol project in development

J.J. Ooka, PhD, Associate Plant Pathologist
PEPS, CTAHR, UHM
KARC
7370 Kuamoo Rd.
Kapaa, HI 96746

This project will document the extent of *Rhodomyrtus tomentosa* utilizing existing and contracted aerial imagery in the visible and near infrared portions of the light spectrum with appropriate ground truthing on Kauai, Oahu and Hawaii. The Technology for improving inoculum production, release methodology and evaluation of effectiveness of a fungal biological control agent of this noxious pasture and forest weed will be developed. The rust *Puccinia psidii* is a foliar pathogen of *Rhodomyrtus* which defoliates and weakens the host leading ultimately to its death.

Pathogen inoculum will be increased on rose apple (*Syzygium jambos*) seedlings and rooted cuttings in green house moist chambers. Urediospores will be collected and applied to test plots on the Kauai Agricultural Research Center during the rainy season. The carrier for the spores will be a gelatin/ sugar solution or fine crop oil. Test sites on other infested islands will be conducted during the second year of the project.

Monitoring of disease development will be by visual estimates using photo point monitoring, ground level visible and near infrared imagery, and quantitative spore trapping. Environmental data collected will include temperature, precipitation, wind speed and direction as well as solar radiation at the top of the canopy and at ground level in the canopy.

Puccinia psidii, a South American rust, is a recently introduced pathogen to Hawaii that is now found commonly all the main islands. While its host range includes native Myrtaceae the races introduced are not particularly virulent on the 'Ohi'a lehua (*Metrosideros polymorpha*).

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

DIVISION OF FORESTRY AND WILDLIFE
KAUAI DISTRICT
3060 EIWA STREET, ROOM 306
LIHUE, KAUAI, HAWAII 96766

November 16, 2009

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RUSSELL Y. TSUJI
FIRST DEPUTY

KEN C. KAWAHARA
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
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BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

MEMORANDUM

To: Keren Gundersen, KISC Coordinator
Fr: Thomas Ka'iakapu, Kauai Wildlife Manager

Re: Project updates

Mana Plains Wetland Reserve Development

Hydrological studies are currently being conducted to determine infiltration rates at the wetland reserve and to incorporate the results in the draft Environmental Assessment which is tentatively scheduled for public review in the spring of 2010.

A brochure of the Mana Plains Wetlands Reserve was recently completed and scheduled for printing. The brochure provides information on the Mana plains wetlands, native waterfowl species and the objectives of the project.

Save Our Shearwaters Program

The Kauai Humane Society is the lead management partner for the SOS program and handles the day to day operations and logistical duties. The Kauai Island Utility Cooperative has partnered with SOS program since 2004 and provides funding support as part of their draft Habitat Conservation Plan. The 30 year old program was created by DLNR-DOFAW in 1978 to rescue fallen Newell's shearwaters and Hawaiian petrels during the fledging season of October and November each year.

Veterinary care and treatment is provided by Dr. Joanne Woltmon of the Kauai Veterinary Clinic, and Linda Elliot of the Hawaii Wildlife Center on the Big Island of Hawaii. The DLNR-DOFAW and the Kauai Endangered Seabird Recovery Project (KESRP) provides oversight and technical and logistical support.

Kauai Endangered Seabird Recovery Project- DLNR-DOFAW

Dr. Nick Holmes is the project coordinator. KESRP was created in 2005 to conduct surveys and research on the threatened Newell's shearwater, endangered Hawaiian petrel and candidate species Band-rumped storm petrel on Kauai. KESRP coordinates its field surveys with DOFAW and

USFWS. The project has gathered much needed biological information on population status, trend, and nesting site locations. KESRP is currently working with the NTBG on the upper Limahuli preserve development project where T-E seabird nest sites have been document. The project includes fencing, population monitoring and predator control.

Puaiohi Recovery Project – Kauai Endangered Forestbird Project – DLNR-DOFAW

The Puaiohi Recovery project is in its 9th year. Dr. Pauline Roberts recently left the coordinator position and moved to California. Lead field technician, Lucas Benke is acting coordinator. The project was initiated in 2000 to increase research and surveys to determine the population status and trend of the endangered Puaiohi in the Alakai Wilderness Preserve. The staff of 4-5 personnel stationed at the Waimea office conducts seasonal habitat and population surveys and participates in the annual releases of captive-reared Puaiohi from the Maui Bird Conservation Center (MBCC). KEFBP coordinates releases with the Zoological Society of San Diego (ZSSD) and monitors the radio-tagged birds post release. A reintroduction project of 18 birds was recently conducted in October 2009 and monitoring efforts are underway.

Kauai Seabird Habitat Conservation Planning (KSHCP) – DLNR-DOFAW

Ms. Andrea Erichsen is the coordinator of the KSHCP with Adam Griesmer as the HCP planner. Their office is located near the Lihue Convention Center. This is the 5th year of the program which provides HCP planning assistance to businesses and agencies that may have seabird lighting issues. The office also provides public assistance on seabird friendly lighting information and guidelines. KSHCP will be adding a new position and possibly looking for larger office space this fiscal year.

Kauai Nene management program

DOFAW conducts year round population monitoring of the Hawaii goose or nene on private and public lands. The Kauai population is estimated to be between 700 and 800 birds with the highest numbers reported in Kilauea, Moloa'a, Lihue and Koloa. To keep track of the ever growing population, DOFAW cooperates with private landowners for access and translocation work. A draft Kauai Programmatic Safe Harbors Agreement is in the works.

In the last five years, DOFAW have successfully translocated over 250 birds from the Kauai Lagoons golf course to various cooperating landowners. Translocation to the neighbor islands is currently being planned for the 2010 season.

Keren Gundersen

From: Joshua_Fisher@fws.gov
Sent: Monday, November 16, 2009 3:03 PM
To: Keren Gundersen
Cc: Daniel_Clark@fws.gov
Subject: Re: KISC Meeting 11-19-09

Aloha Keren,

On my end of business:

Due to limited funding and thus capacity, the state (DOH) will no longer be testing birds for WNV. KISC may still be called upon to pick up dead native birds to be submitted to the National Wildlife Health Center- Honolulu Field Station for necropsy and also can continue to submit dead feral chickens to the state Dept of Agriculture Labs Division for the testing of Avian Influenza. Reports will be handled thru DOFAWs district biologists. Other, non-native bird species will no longer be accepted for testing unless future funding is secured.

bests,
joshua

Joshua Fisher
Invasive Species Specialist
US Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
cell: 808-779-9939
email: joshua_fisher@fws.gov

11/24/2009

Kauai Invasive Species Committee Meeting
11-19-9
TNC Update

TNC is continuing to work for the benefit of the KWA, to execute the East Alaka'i protective fencing project. We are in the process of finalizing a contract with Wellington Fencing Company, LLC for the construction of the fence. We anticipate that construction will begin before the end of 2009.

Complications with securing helicopter transportation put a hold on some of our field activities this fall. We've recently begun working with Jim Hobbs of Airborne Aviation. He is OAS certified for both passenger and external load flights, has thousands of hours of experience doing utility work in remote wilderness areas, and is looking to move his business from Maui to Kaua'i. We are using Jim to sling radio repeaters into the East Alaka'i project area right now....as Tim is reading this. We will also be slinging in weatherport materials and constructing the remote shelter in early December. We look forward to working in partnership with Airborne Aviation in the future.

We are also currently working on an Environmental Assessment for our Wainiha valley protective fencing project. This project will involve the construction of a short fence (around 400 meters) spanning a natural squeeze point in the valley. The fence will work in conjunction with topographic barriers to prevent feral pig ingress into the back of the valley. We anticipate that the permitting process will be complete by August of 2010, and construction will start soon after.

Finally, we are collaborating with the wireless technology company, Intelesense technologies, to develop trapping and monitoring tools that will allow us to monitor ungulate activity in our preserves in real-time. This technology will also give us the ability to remotely activate pig traps and monitor the success of those traps. These tools will reduce the amount of field-time required to manage our remote trapping program, dramatically increasing the efficiency and effectiveness of our trapping activities.

Submitted by: Jeff Schlueter