

MAUI INVASIVE SPECIES COMMITTEE
Meeting Minutes
Friday, June 22, 2012

ATTENDANCE: Bob Hobdy, Lloyd Loope, Pat Bily, Forest Starr, Kim Starr, David Ferrell, Brooke Mahnken, Mike Ade, Adam Radford, Teya Penniman, Elizabeth Anderson

- The meeting was called to order by Pat Bily, TNC/MISC Chair at 11:20am
- Introductions were made around the table.
- Minutes from the April 20, 2012 meeting were approved. They will be posted on the website.

ANNOUNCEMENTS:

- Adam: Elroy Krause's 19 year old son was killed in a car accident and his dad passed a week later. The Hana crew is in mourning.
- Teya: Lissa had her baby on May 29 – Conrad Eliot Strohecker
- Teya: Lori is serving as interim manager for BIISC since Jan left.

PRIORITY SETTING

Overview: All MISC Targets

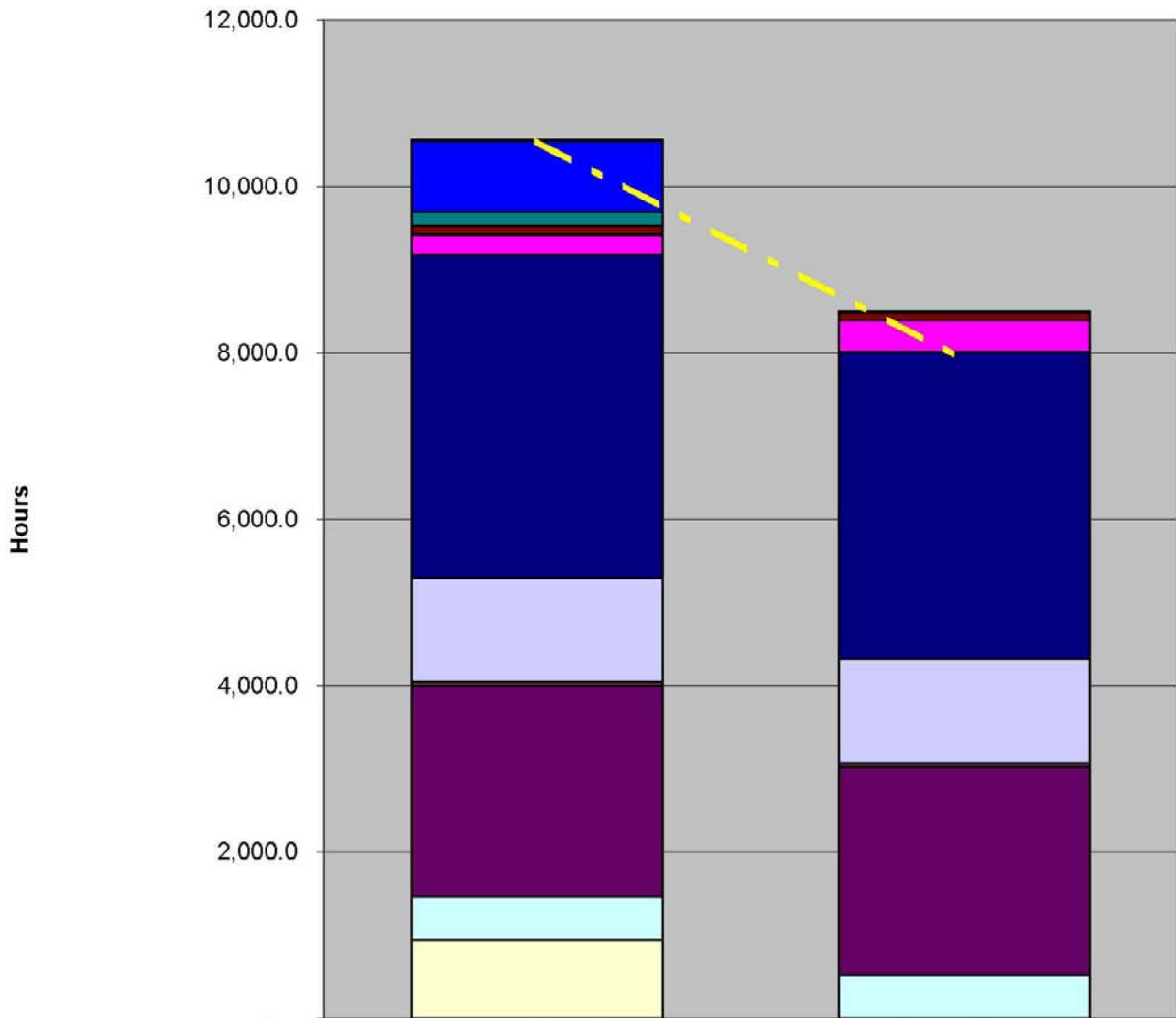
- Teya: we have covered miconia and pampas in depth at recent meetings, but we haven't covered our other target species. We are moving forward with creating benchmarks for all of our species. It is a work in progress. Brooke, Adam and Mike have been putting a lot of work into the process. Brooke has been coming up with different ways to look at the different variables and analyzing which are the most important variables to consider. We are summarizing what we know about our different target species and identifying some gaps in knowledge. We are looking to the committee to help us fill in some of those gaps. We can create an ideal scenario for dealing with a target, but we are of course constrained by resources. When we have gone through the priority setting process in the past, we usually end up saying keep on going on. Our NPS funding is way down for both personnel and miconia/pampas aerial operations. We received extra funds from DWS last year to help with the helicopter shortfall and we are asking for that again.

	FY10	FY11	Projected FY12	FY13
Personnel	\$ 1,456,255	\$ 1,487,051	\$ 1,479,066	\$1,500,000
Helicopter	\$ 43,214	\$ 50,863	\$ 141,601	\$ 200,000
Supplies, Travel, etc	\$ 327,339	\$ 299,164	\$ 428,401	\$ 380,000
Overhead	\$ 247,965	\$ 212,932	\$ 236,380	\$ 207,672
Total	\$ 2,074,773	\$ 2,050,010	\$ 2,285,448	\$2,287,672

FY13 Projected Revenues		Revenue vs. Expenses
OED	\$ 833,000	
DWS	\$ 425,000	
USFS	\$ 100,000	
HISC	\$ 235,000	
USFWS	\$ 190,000	
	\$ 1,783,000	\$ (504,672)

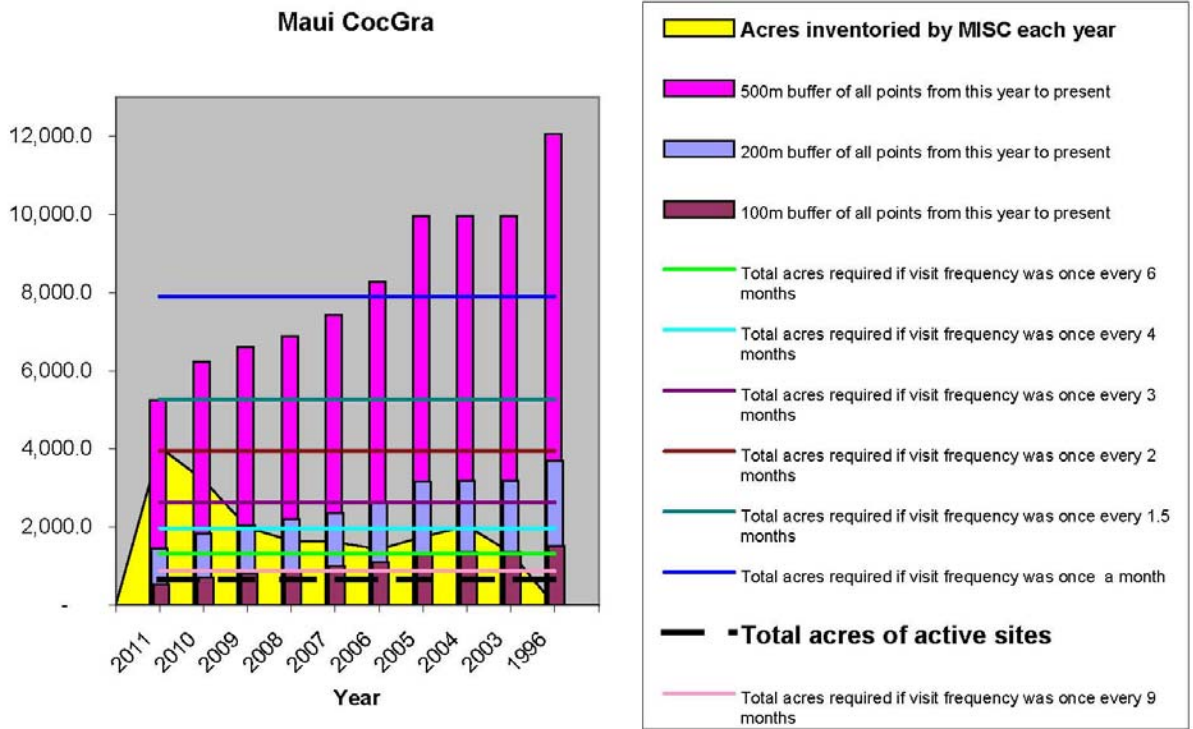
- Stuart: from a budgetary standpoint, we never get our funding within the fiscal year in which it is allocated. Teya: the numbers we work off of are based on what was spent each year. The numbers in the table below don't reflect NPS heliops, but they do reflect the NPS contribution to personnel. FY12 supplies include \$234k for citric acid and FY13 contains a projected \$200k for citric. We are definitely going to have a leaner time with heliops in the upcoming year. DWS is only in for \$260k at the moment. I will be meeting with them on Monday and am hoping to get \$425k. I met with OED yesterday and have a figure of \$833k. This combines all four OED grants – general, coqui, BBTv, and LFA. This leaves us ~500k short for the upcoming year. There are grant options we will be pursuing including the Forest Service Competitive grant. Pat: can we be more efficient with miconia heliops by having HBT on board? Adam: there is a significant cost savings with using HBT. We can combine recon with HBT control. Teya: there are areas we can get increased savings. James has funding from the Forest Service and will be asking for HISC funding.
- Teya: from our time log for FY12 to date crews have spent ~75% of field time on plants, 22% on vertebrates, 4% on BBTv, and less than 1% on LFA.
- Brooke: at the last meeting we discussed buffering all pampas points for the last three years to 200m and surveying that area. Now we are talking about applying a similar method to other species. Evaluating ivy gourd in Kihei we looked at 100m, 200m, and 500m buffers. The point of applying the buffers is that we know we need to survey beyond known locations. When you buffer, you need to balance how much time you can spend revisiting your known locations vs. surveying the buffers. For pampas, we aimed for one revisit per year. For ivy gourd, we aim for a revisit every six weeks. Combined with the buffer this would be a massive amount of work. Adam: we are talking about one consideration for guiding crews in the field. How far back do you go in establishing your buffer? We are striving for an approach that is both acceptable and accomplishable. After this meeting we are hoping to be able to set the benchmarks. Teya: we also need to look at where we would cut back if we had to. Adam: or what we would do if we had more resources all of a sudden. Pat: with miconia we always draw the analogy to a wildfire. With pampas, I am not sure it is going to follow the same theme.

MISC Budgeting Allocations, in Hours



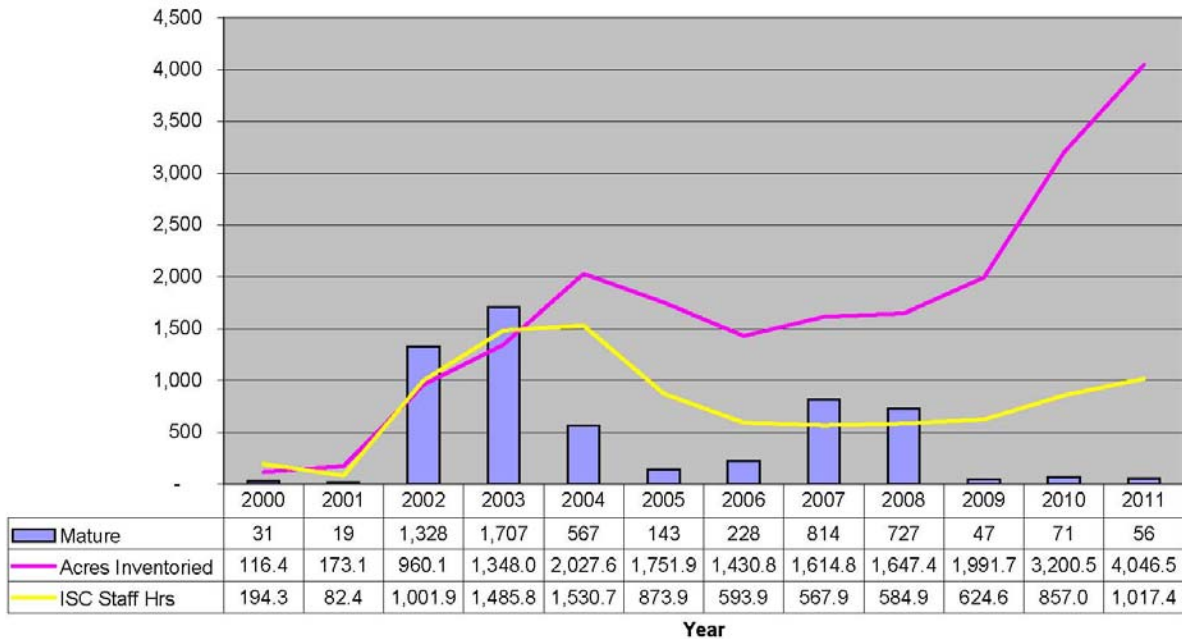
	2010 / 2011 Avg. Hrs	Proposed Budget
Other Species, Ground	17.4	17
PenSet, Ground, Lanai	853.2	-
CocGra, Ground, Lanai	163.5	-
SilMar, Ground, Maui	94.3	94
PitUnd, Ground, Maui	17.7	-
PenSet, Ground, Maui	236.0	370
MicCal, Ground, Maui	3,887.4	3,700
MicCal, Air, Maui	1,249.0	1,250
*EriLus, Ground, Maui	43.3	43
Cortaderia, Ground, Maui	2,537.4	2,500
Cortaderia, Air, Maui	525.3	525
CocGra, Ground, Maui	937.2	-
MISC Budget (in hours)	10,542.2	7,906.7

- Brooke: the table above shows average hours put into different projects by calendar year. Lloyd: wow you are really spending a lot of time on fountain grass on Lanai. Teya: we started that project with the idea of protecting Maui from fountain grass via hunter and golfer vectors. Since then we have seen that Lanai has resources worth protecting. Lloyd: I have always been skeptical about the work on ivy gourd but relatively speaking you don't spend that much time on it.



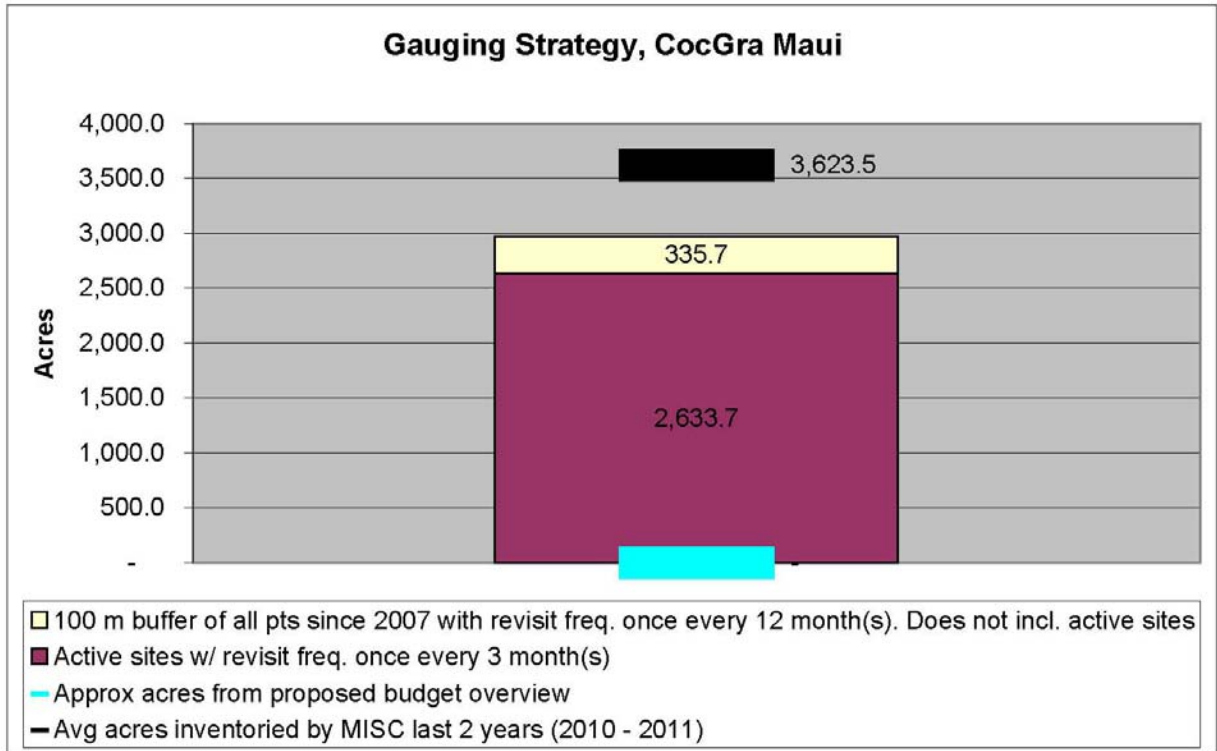
- Brooke: the ivy gourd graph above shows acres inventoried through the years in yellow. The bars represent the acreage we would be required to cover if we did 100m, 200m, or 500m buffers and if we took all the points back to the year in question on the graph and buffered them at the different levels. This includes all points for ivy gourd, not just mature points. Ivy gourd seed life is at least six years so you would need to buffer back at least that far. The red line shows total acres if revisit frequency was two months. The minimum time to fruiting is less than three months and, as a result, ivy gourd has a strict revisit frequency.

Ivy Gourd, Maui

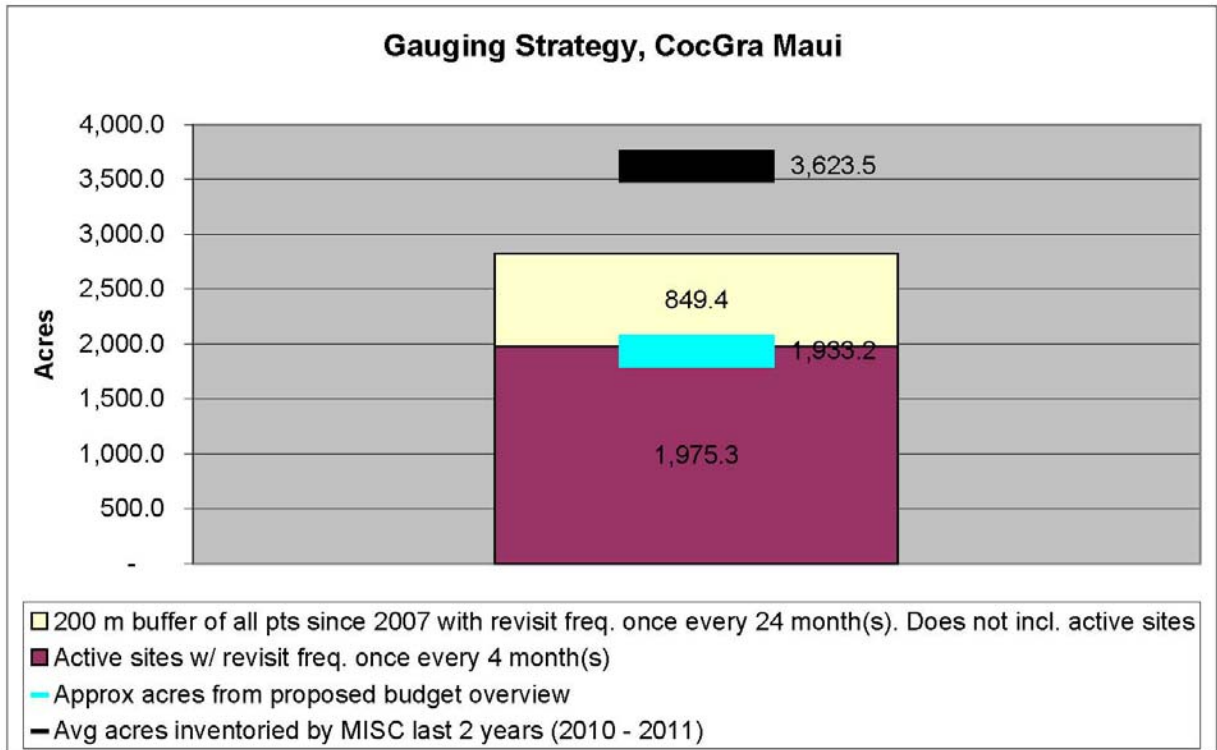


- Brooke: the graph above shows the history of ivy gourd on Maui including mature plants controlled, hours, and acres. We did change the way we count mature plants for ivy gourd. We used to count all nodes on a mature plant as mature (e.g. 34 nodes = 34 mature). Now we just count the plant once and the nodes are counted separately (e.g. 34 nodes, 1 mature). We have developed an interactive gauging strategy where you can plug in different numbers of acres vs. the proposed budget and look at the results. The parameters that can be changed include:
 - Buffer distance
 - Time period (this affects which points will be included to create the buffer)
 - Revisit frequency for buffer
 - Revisit frequency for active sites

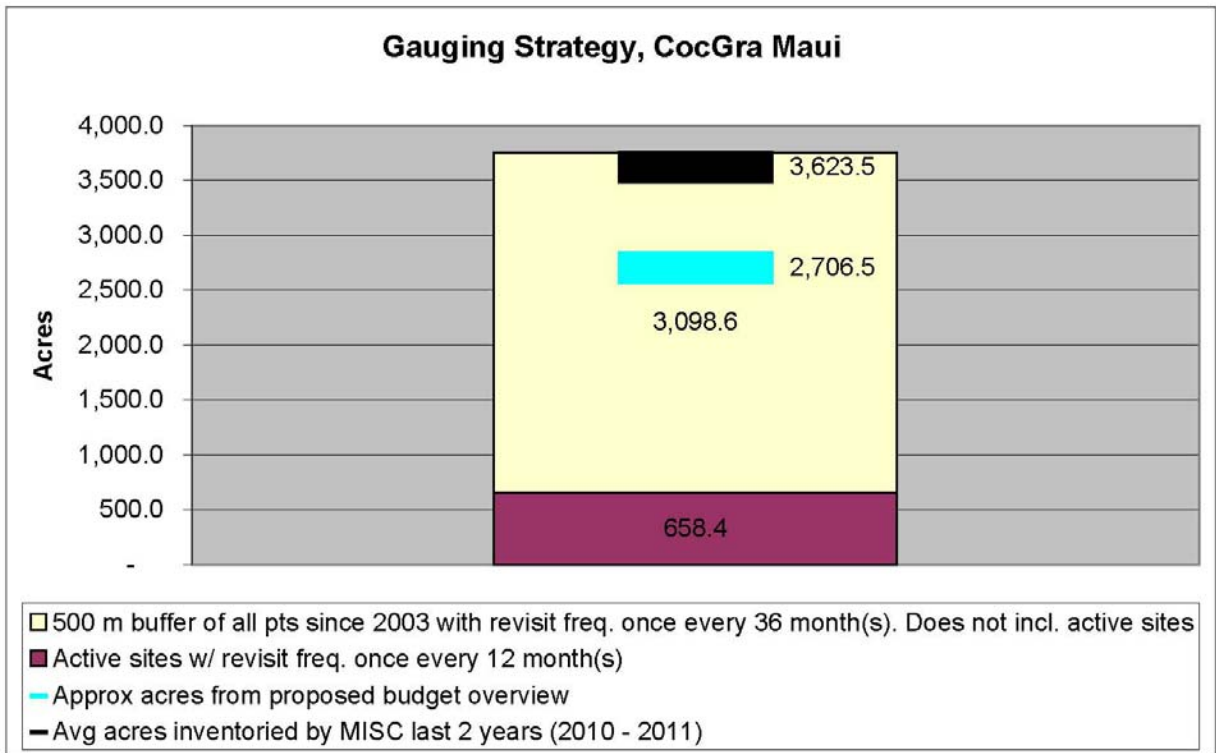
Sample 1:



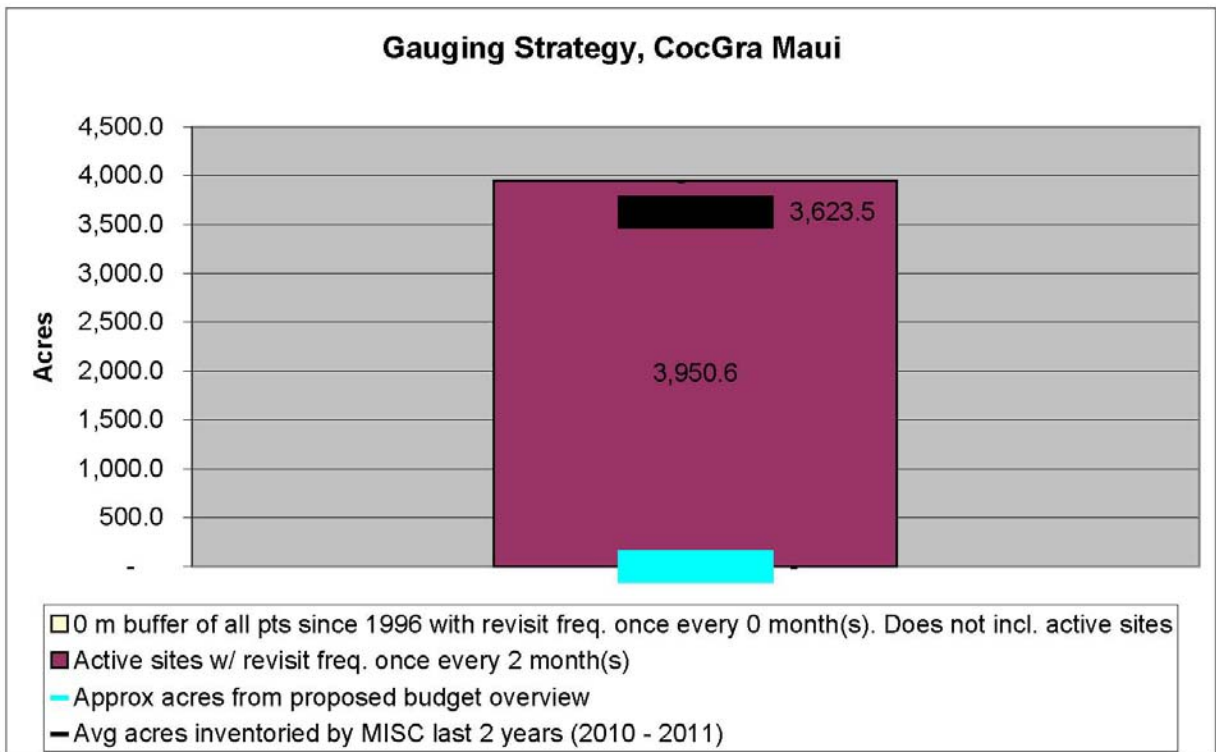
Sample 2:



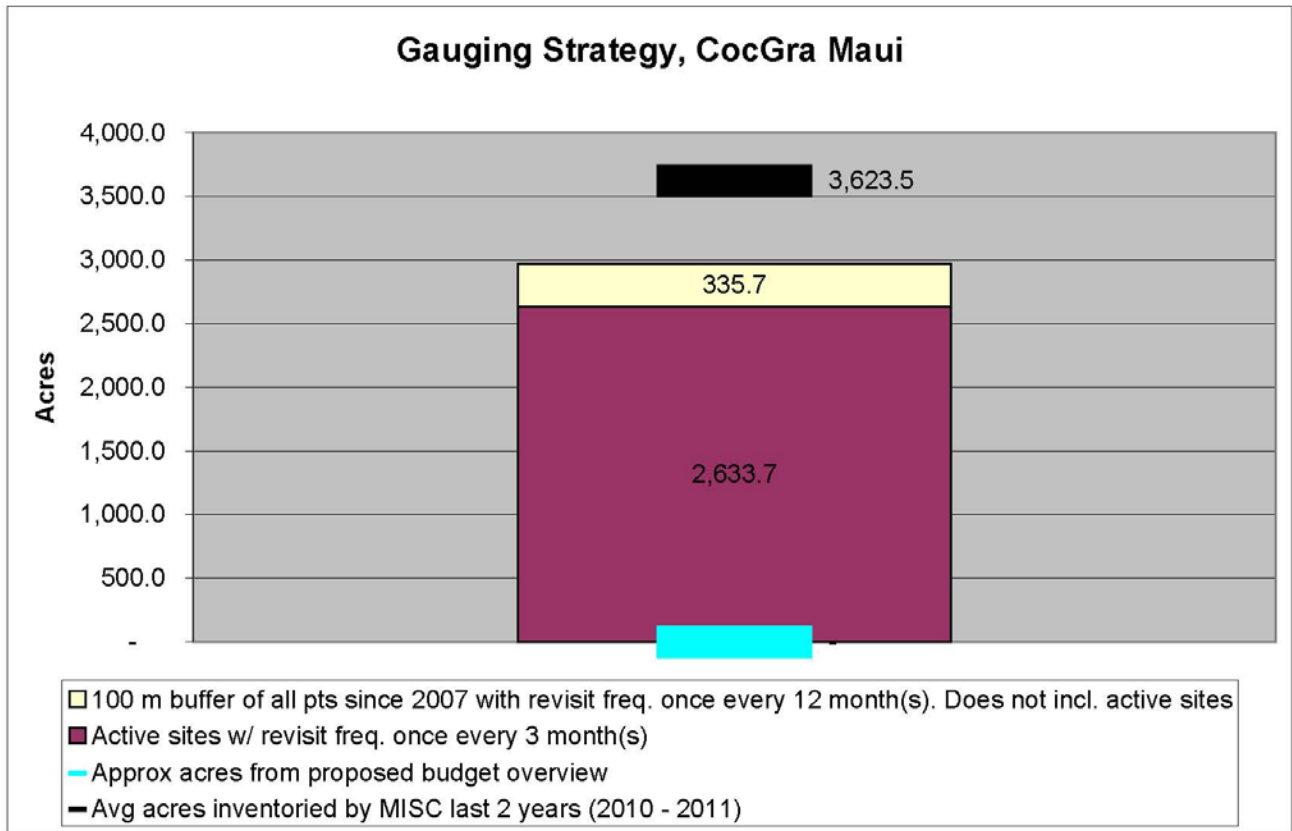
Sample 3:



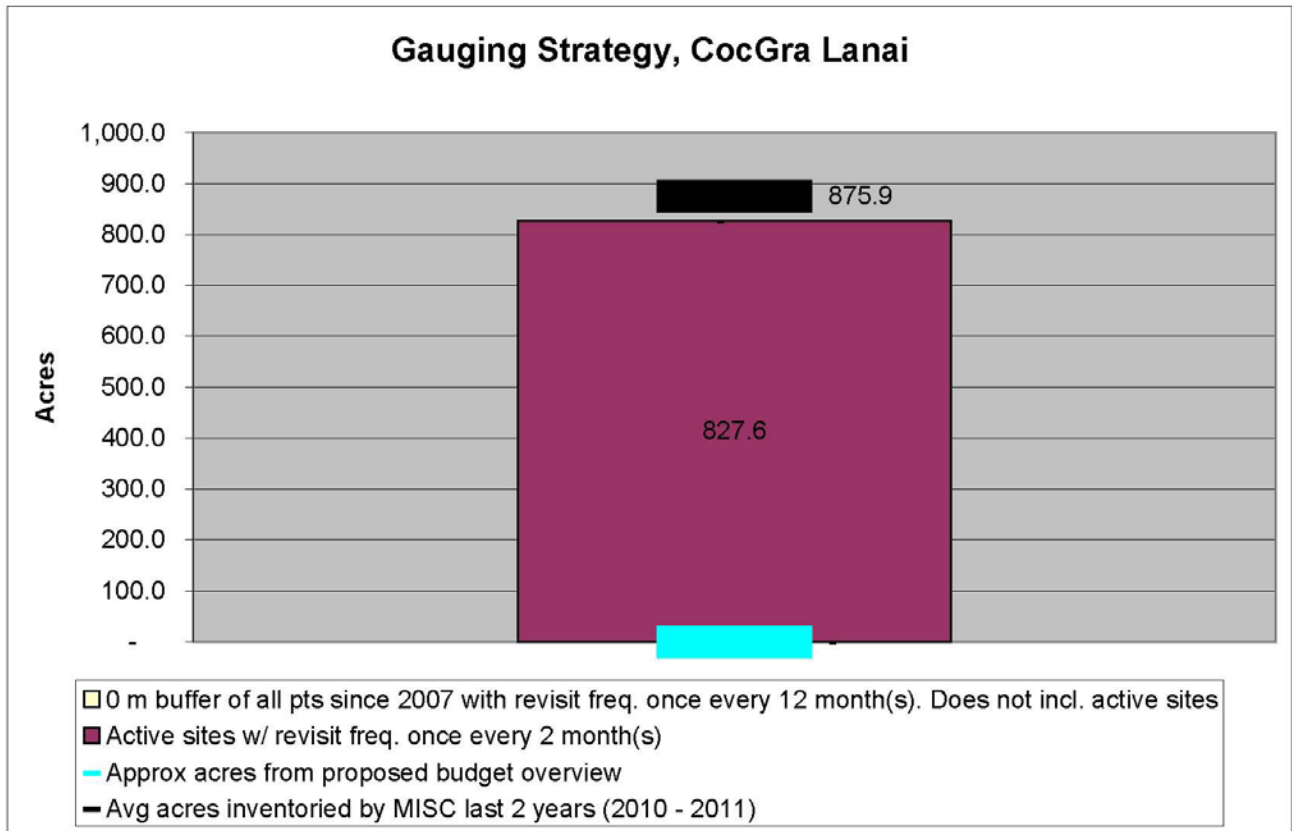
Sample 4:



- Pat: if you decrease your survey interval, you would expect it to spread. Adam: with ivy gourd we are proposing one year for the buffer and then we need to revisit the active sites at an interval that we need to decide on. Brooke: the buffers may overlap for multiple species and for some species like ivy gourd and fountain grass and you can survey for both at the same time. Adam: one reason we got involved with benchmarks is to provide clarity for the crew. If there is a find, there is an automated response. Teya: how far back should we go for ivy gourd? It sounds like the minimum is five years. Mike: there is a site in Kihei that has plants all the time, but there are no mature plants nearby, just keiki. We need to go back for at least five years. Brooke: at a 200m buffer and five years, we get about the amount of acres we have been covering. When we survey an entire property, we say we have done the entire TMK. In non-residential areas we buffer the lines. Mike: right now we have different revisit frequencies for different sites based on newer sites that actually have fruit. The treatment is G4 and we don't get re-sprouts. If we get a huge plant, it could take two hits, but it doesn't go back to producing fruit.
- Pat: I wonder if we could brainstorm ways to cut back. Maui Meadows and Wailea/Makena could get away into the wildland in a hurry. Residential Kihei doesn't seem as much of a threat. You could cut back on frequency in dense urban/residential areas vs. areas closer to wildlands. Brooke: could it really grow in the dry kiawe? It does a lot better when it is irrigated. It limps along if there is no water. Teya: the other thing to think about is not just the priority this year, but how long are we talking if we kept up at a certain level of effort? How long would it take us to reach the goal of eradication? Lloyd: with the seed bank, I think it is unrealistic to talk about eradication. Forest: the potential reintroduction by humans is an issue with this species. Brooke: that can't really be factored into the buffer concept. Forest: some species have a higher reintroduction potential than others. Adam: we can't do anything about the human vector. You deal with it when you find it. Lloyd: for something with this wide a distribution and a long seed life, do we really have a chance at eradication? Mike: probably not.
- Decision = five years at 100m buffer and revisit active sites every three months. Adam: we are trying to move toward a more dynamic revisit structure. We would revisit the hot ones more often.

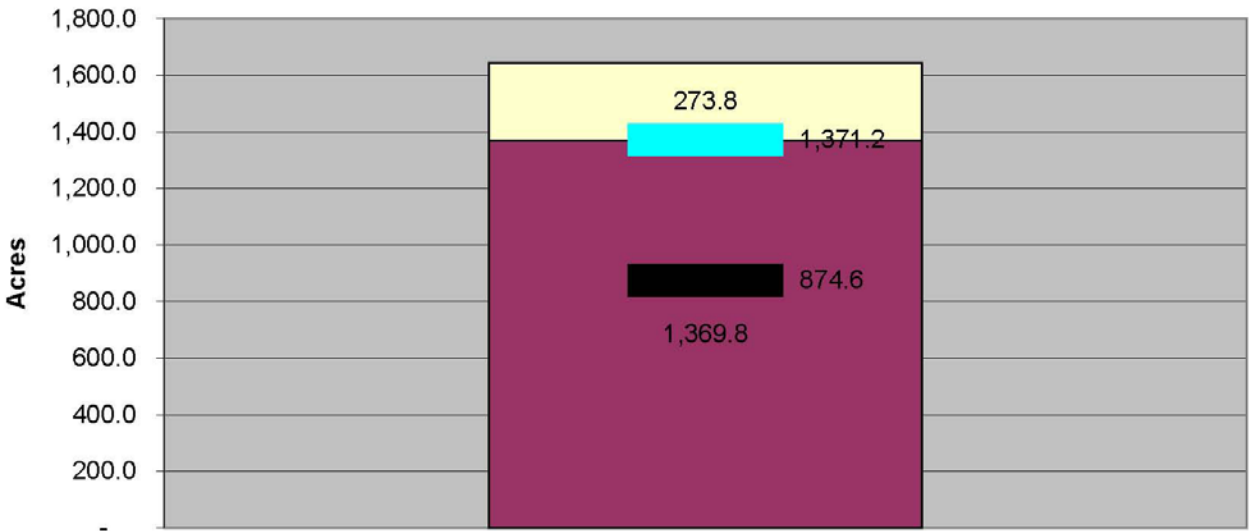


- Brooke: we will look at Lanai ivy gourd next. 2009/2010 is where we changed our counting method. On Lanai if you buffer ivy gourd, you are going off the golf course into really dry areas, which doesn't make sense. Adam: I don't think it needs a buffer. Mike: you can see it if it is out there. Adam: on Lanai, ivy gourd is eradicable. Mike: yes. We revisit now every 6-8 weeks on average. Lloyd: what are we protecting on Lanai by controlling ivy gourd? Elizabeth: we are protecting seabird nesting habitat.



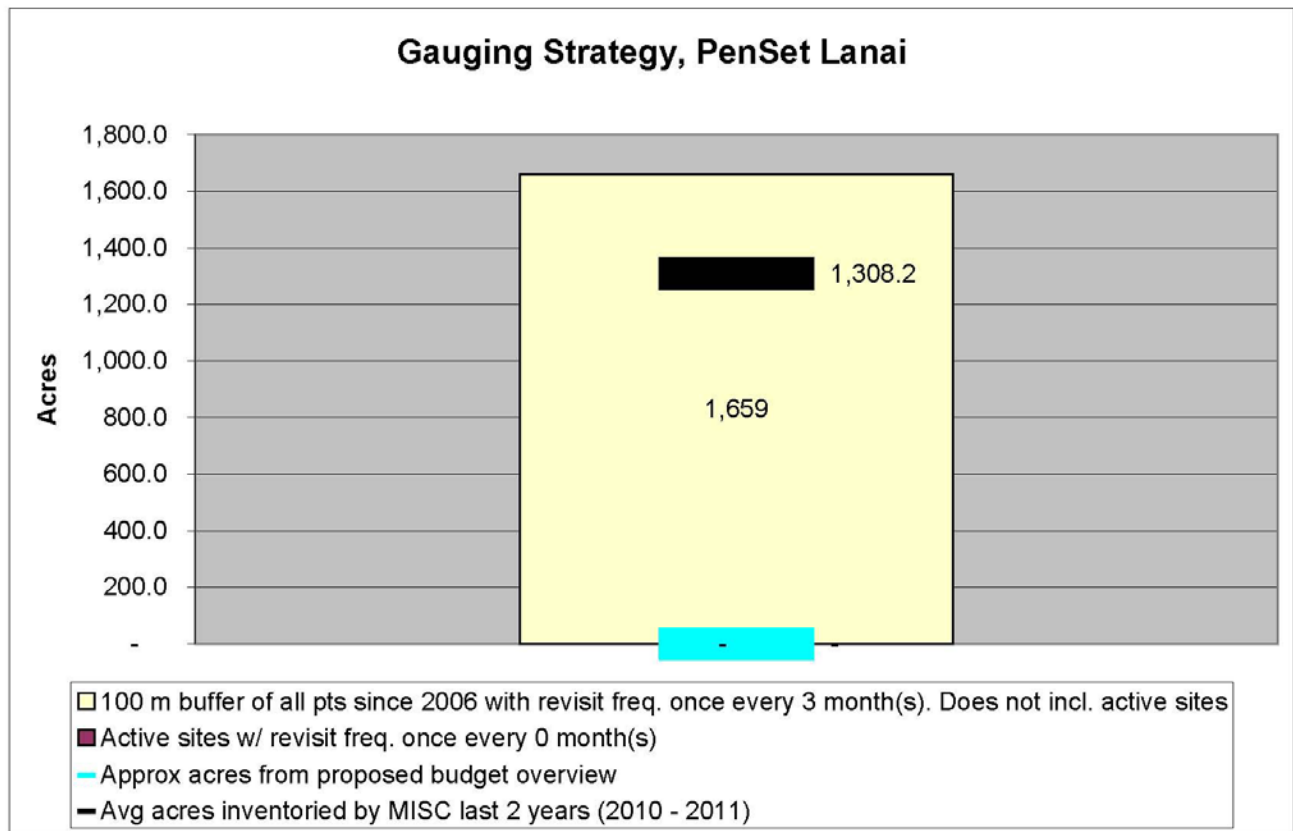
- Brooke: for fountain grass on Maui, the Pukalani site we found last year was a big anomaly in our data. Teya: other than the anomaly we are looking good. Mike: fountain grass is mainly recon at this point. Control is minimal. Teya: it can flower all the time and is wind dispersed. Mike: most of the seed falls at the plant. It is a light seed. We try to visit known sites once a month. Most of the places where it is, you can see a far distance. Teya: with the once a month revisit, are we getting them before they flower? Mike: small plants still put out tiny flower spikes. Lloyd: historically it does pop up in new places fairly often. Bob: it is often on equipment. Lloyd: you are never going to eradicate it. Teya: the goal should be to eradicate all known sites and continue to eradicate new sites as they appear. We should maintain our once a month revisit. Adam: maybe with this one if you find a new site, you do a one time 500m buffer. Teya: if we find a new site, what should the buffer be in an area where it wasn't known before? Should we have a regular buffer vs. a one shot buffer? Randy: instead of making the buffer time dependent, maybe you just say after a big rain. Adam: what is difficult with that is determining who makes the "oh yeah, it rained, we should go" decision. Mike: now we usually do it in March if we had rain in the winter. Brooke: in this instance when you do a 100m buffer, it encompasses all the active sites. It adds a negligible amount beyond what we are currently doing. Adam: how far back do you go? Mike: a lot of the old sites have become industrial, housing, etc. Teya: the literature says seed longevity is at least six years.
- Decision = revisit at two months and 200m initial buffer for a new site.

Gauging Strategy, PenSet Maui



- 200 m buffer of all pts since 2006 with revisit freq. once every 12 month(s). Does not incl. active sites
- Active sites w/ revisit freq. once every 2 month(s)
- Approx acres from proposed budget overview
- Avg acres inventoried by MISC last 2 years (2010 - 2011)

- Brooke: for Lanai fountain grass, even a 200m buffer is eclipsed by the active site. The buffer should be 200m every two years. When we do a big sweep, say at Kanepuu, we cover a huge area so the acreage of the site reflects that and it makes the active site acreage large. Teya: it looks like we should eliminate some of the areas and scale back. We should scale back our searches on Lanai to just be within the 200m buffer. Brooke: yes, instead of sweeping the site, we could just sweep the 100m buffer every three months. This gives us 1,659 acres and we've been doing 1,300.



- Brooke: we surveyed more for Spanish heath this year than we have in previous years. In previous years we were just controlling the known sites. There are only two sites and they are small so when you buffer it the area becomes way bigger than the active site. Pat: you need to make sure you have checked the areas like residential Upper Kimo. Brooke: buffering of known points won't make a lot of sense with this one. Mike: this one can flower continuously. It takes four years to reach maturity, but suckers spread more quickly. If you buffer at 100m and revisit every 12 months, that covers the active sites. We are doing a trial using G3A.
- Brooke: we don't have an interactive model set up for *Silybum* or the rest. Mike: we are making progress on *Silybum*. All known plants are dead. We increased our acreage and went up into the ranch. It is going well considering how much there was. Forest: the one at the Enchanting Floral Garden is dead. Mike: it has heavy seeds that stay close to the plant. We buffer wherever we can get to. Last time we did a 200m buffer. We need to recon to the west. Adam: the buffer in this instance is separate from recon. The buffer is where you say you are going to go whenever you visit. Mike: revisit is either annual or biannual. We do it when the other thistles start to go.
- Teya: if we have to cut something, what would we do? Pat: even if everything got a reduction, it doesn't prepare us for the next big bomb like an LFA invasion. Teya: that is something we could get funding for.
- General comments/suggestions: If we had to cut back, would we take away from miconia and pampas also? What would hurt the least to cut? There is a biocontrol for ivy gourd. If we cut Lanai for a year, what would happen? How much would it cost to recover? Or what if you cut Lanai back to once year? The good thing about working on Lanai is that we are showing good results. We have a positive trend on both Lanai species. There are a lot of variables and political ramifications. If any field positions become vacant, they will not be filled. Consider dropping ivy gourd on Maui and cutting two positions.

- Pat: everything is looking good and progress is being made. What would happen if you walked away from something for a year? How bad would it get in a year? Teya: we should look into dropping ivy gourd on Maui for now and cut Lanai to once or twice a year. There is the potential for increased aerial efficiency with HBT and that will save money. We have our ideal situations out there and then we may need to go back through everything again to see how many person hours we would need to save. What would it look like to get to a certain level of savings? I am committed to trying to find additional funding, but it is good to know where we can go. Brooke: it would be good to include vertebrates in this discussion and also convert to from hours to cost.
- Teya: our next meeting was originally intended for vertebrates, but it looks like we should come back to this process and look at what we do if we really do have a cut. We can do an overview on vertebrates, BBTV, and LFA also. We need to discuss *Pittosporum* at the next meeting as well.

Next Meeting: September 14, 2012