

## APPENDIX D: SUMMARY OF PUBLIC COMMENTS RECEIVED

This appendix summarizes the public comments received during development of Hawaii's Comprehensive Wildlife Conservation Strategy (CWCS). It does not include specific biological information (such as new data on a species' distribution or abundance). Further, the public comments have been summarized and aggregated for better understanding and explanation on the incorporation of major themes provided.

### **PUBLIC COMMENT RECEIVED THROUGHOUT THE PROCESS – FROM SCOPING THROUGH THE SECOND REVISED DRAFT CWCS**

#### *Terrestrial*

- Species of Greatest Conservation Need
  - Include IUCN ranking as status reference
  - Helpful to link threatened habitats with species as well as high priority areas on each island for recovery
  - Question on whether to include possible extinct species on the list
  - Question as to why the Canadian goose is not listed
  - Recommended additions of the Bristle-thighed Curlew and Short-tailed Albatross
  - Question on why the green-winged teal is listed
- Habitat
  - Offshore islands should be linked with each island section
  - Recognize Lā'au Point on Moloka'i as a critical area for monk seals
  - A wildlife area should not be judged solely on the native species composition
- Threats
  - Recognize game animals and game birds as threats to native wildlife and habitats and that hunting opportunities need to be provided, but with minimal impact to native species. Currently, hunting does not produce this result
  - Disagree that collection is a large pressure on Blackburn's sphinx moth
  - Strengthen avian malaria as a threat
  - Add wildfires as threat to native habitat
  - Add Axis deer on Maui
  - Add alien dominated vegetation as single largest impediment to restoring native ecosystems
  - Add introduced coqui or veiled chameleons as threats since they not only prey on native invertebrates, but also provide food for other introduced species (e.g., lizards, centipedes, etc.) thereby increasing their populations
  - Mongooses are just as big a threat to terrestrial animals as rats and feral cats
  - Feral pigs are known to destroy nēnē nests and take goslings
  - To loss and degradation of habitats, add pesticide and herbicide use, electrical towers, and possibly wind farms

- There is as of yet no firm evidence that introduced birds are effective carriers and spreaders for avian diseases to native birds
- IACUC as an impediment to effective invasive species control
- Conservation Actions
  - Consider captive propagation of koloa maoli to enhance wild populations
  - Actions need to be considered at the landscape level
  - Need to recognize the importance of enhanced and secure sources of management funding for State and public private partnership activities
  - Support Cats Indoors Programs statewide
  - Early detection and response key to managing threats to native wildlife
  - In addition to building fencing, emphasis needs to be placed on maintaining fences as well
  - Increase awareness of endangered species and preservation on Molokaʻi
  - To protect the pueo on Molokaʻi, feral animals must be controlled
  - Priority habitats on Kauaʻi should include wetlands for nēnē
- General Comments
  - Concern that the Strategy will lead to increased taxes as more funds will be required to hire staff and carry out the Strategy
  - Concern over using showcase or umbrella species to protect other species and habitats. An alternative recommendation is to use a suite of different species associated with a habitat to monitor both species and habitats
  - Not all introduced species are detrimental to native species as some are used by native species as food and habitat
  - The Strategy should also protect introduced endangered species
  - Native Hawaiian access rights as they relate to conservation-based restrictions should be recognized
  - Add that a West Nile Virus working group has been established to address WNV issues
  - Strategy should include maps of important landscape areas on each of the islands which encompass areas important for conservation of SGCN
  - The Strategy should list specific goals such as the following: urgent need for ungulate free areas on islands where there are currently none; long term goal to represent all ecosystem types of sufficient size in ungulate free status; stepped up and better coordinated effort at keeping the worst habitat modifying weeds out of pristine areas; establish a resilient network of marine managed areas which should include a minimum of 20% no take
  - Need to further prioritize objectives and actions to increase efficacy of the Strategy
  - Clarification on how the Strategy will be implemented post October 1<sup>st</sup> should be made as well as timeline for all the actions
  - The Strategy could provide more specifics on how the objectives will be achieved (e.g., setting goals and outlining specific actions)
- Fact Sheets
  - Most comments received were corrections and additions to species information concerning habitat use, biology, threats, distribution, conservation actions

## *Aquatic*

- Species of Greatest Conservation Need
  - Include marine algae
  - Include only anchialine species and Newcomb's snail
  - Game fish – should include because are already managed
  - Game fish – should not include because should not allow fishing of them if truly of conservation need
  - Game fish – should include because if listed as overfished, might have to stop fishing, so should take proactive steps to ensure continued fishing opportunities
  - Game fish – if plan to exclude, need a standardized and scientific approach on which will be excluded
  - Game fish – difficult to say if actually being overfished, or what the cause for low numbers is
- Habitat
  - Include discussion of impact on stream habitat (and on other wildlife, such as native birds) by Army Corps of Engineer manipulations
- Threats
  - Include discussion of harvesting of rare shells for sale on Ebay or other Internet auctions
  - Include discussion of extractions for research purposes – currently does not require a permit, and is an area of potential abuse
  - Include discussion of bio-prospecting
  - Impact of two additional cruise ships – trickle-down impact of additional 'spin-off' recreational activities, resulting in increased impacts to marine environment
  - Inefficient use of funding
  - Concern over rechannelization of streams for native stream species
  - Manta ray populations in other parts of the world are threatened by their fishing. Potential threat of fishing to manta rays in Hawai'i
  - Take of rare species supposedly for cultural purpose, but in reality for commercial sale (e.g., polished nerite or kūpe'e)
- Conservation Actions
  - Amending import/export regulations to be more conservative – switch from a ban on identified species to a ban of all except for identified species
  - Establish collection limits on any indigenous species (at a genus or higher taxonomic level – not species specific) to prevent future commercial or recreational take expansion from decimating populations before effective response can be made
  - Require permits for research if involve extraction of organisms
- General Comments
  - Concern about public distribution of sensitive information (e.g., habitat location), especially for species not currently under protection
  - How can species be added over time?

- Incorporate the *ahupua'a* concept into the CWCS
- Try to use knowledge from *kupuna* (elders) about species and habitats

### ***Comments specific to CWCS Drafts***

- Similar to the republic of Fiji, airport arrivals to Hawai'i should be treated to a video explaining the dangers of invasive species to Hawai'i and how they can be transported in recreational gear; and increase posters at airports that relate to invasive species as well as endangered species export/import regulations and restrictions, including required permits
- Programmatic Safe Harbor Agreements for Hawaiian waterbirds should be included as a management tool
- Broaden handbook recommendation from just post-wildfire treatment to other subjects
- Greater emphasis on traditional Hawaiian resource management systems, such as the *ahupua'a* system, should be made
- Newell's shearwaters utilize primarily inaccessible nest sites on sheer cliffs or uluhe covered habitats, white-tailed tropicbirds nest primarily in MHI
- Statewide Chapters
  - Habitats - add lakes and anchialine pond descriptions
  - Threats - for 'alalā, habitat degradation and fragmentation are critical challenges for 'alalā recovery
  - Threats - under invasive species, add a category called "genetic pollution" which would include GMOs and the problem of hybridization between introduced and native species
  - Threats - avian botulism, most prevalent disease threat for native waterbirds, should be added
  - Threats - feral mallards are a statewide problem for koloa maoli, not a local one. They are a threat not only to the koloa maoli, but to other native waterbirds and eventual relocation of Laysan Duck
  - Threats - add to climate change, increased drought periods which impact wildlife and habitat
  - Threats - add relationship between feral pigs spreading mosquito borne avian disease
  - Threats - for coastal dune ecosystems, off-road vehicles are a major threat
  - Threats - add rats as seed predators on native plant species
  - Objectives - summary of action should be outlined to specifically address how to eradicate feral goats, sheep, and mouflon from palila critical habitat, particularly on Mauna Kea. This should include an assessment of progress and outline of future actions
  - Objectives - add a bullet for need to increase research on management tools for controlling introduced vertebrates
  - Objectives - add a recommendation to increasing outreach and developing partnerships with the agricultural industries and research facilities
  - Objectives - add a recommendation of organizing an interagency and stakeholder task force to examine and conduct pilot studies on how to

- make endangered species on private lands economically viable for landowners
- Objectives - add recommendation identifying the need to promote emergency priority biological control development and release
- Objectives - identify most serious alien threats to assist interdiction prioritization
- Objectives - identify specific steps to prevent inter-island spread of invasives
- Island-sections
  - Kauaʻi: add Limahuli preserve as managed by National Tropical Botanical Garden as well as an area that requires enhanced management
  - Kauaʻi: add Haʻena State Park wetlands and *loʻi* systems for native wetland birds; Limahuli stream, one of the state's top five pristine streams and utilized by koloa maoli
  - Niʻihau: include language about the significance of ephemeral playa lakes and removal of feral mallards
  - Maui: major streams should include Honokōhau stream, which is impacted by diversions by Honolulu ditch; Kanahā pond should be accurately described to reflect current state of water resources to the pond (artificially pumped); instead add 57 diverted streams, USGS maps show 70 diverted streams in east Maui, while west Maui has over one dozen; intact freshwater systems are also found in undiverted streams of Kīpahulu and Kaupō areas (Alelele, Kālepa streams) and Makamakaʻole streams
  - Maui: Kanahā pond is threatened by airport expansion; add threats through importation of invasive plant, seeds, and pathogens as a result of insufficient inspection at airports and harbors; stream restoration language should outline a timeframe
  - Maui: promote funding to support preservation of East Maui wiliwili forest, including actions to treat forest for *Erythrina* gall wasp and seed collection and storage; expand marine protect areas or marine management areas
  - Maui: Fleming Arboretum has a new electronic database with 170 native dryland forest species on its 17 acre site
  - Maui: add to potential areas for enhanced conservation management wiliwili forests, particularly in areas of leeward Haleakalā volcano; dryland forests of southern Maui (Auwahi, Kahikinui, Kaupō, Manawainui); south eastern Maui coastline (Keoneʻoʻio Bay to Kanaloa point) which have anchialine ponds
  - Kahoʻolawe: separate plants and animals for reintroductions and highlight Laysan Duck as one species specifically planned for reintroduction per the recovery plan
  - Hawaiʻi: mouflon sheep should be highlighted as a threat for the entire Mauna Kea area; axis deer
  - Hawaiʻi: draft a Safe Harbor Agreement for endangered waterbirds; secure stable funding for sea turtle work and understanding of adjacent nearshore

marine habitats to better evaluate NPS impacts; suggestions on adding specific inventories for specific taxa which have already been conducted

- Appendices
  - Comments made included edits to distribution information

## **PUBLIC COMMENT RECEIVED ON DRAFT CWCS AT TECHNICAL WORKSHOPS JUNE-JULY 2005**

### ***Species of Greatest Conservation Need***

- Include plants on the list of species of greatest conservation need; do not omit them from the CWCS. Recommendations include: including all threatened and endangered plants; including all identified genetic safety net plants (those species with less than 50 individuals); including species with documented animal interactions (food, host, habitat); including species identified as a dominant or co-dominant species in a natural community by Wagner's *Manual of the Flowering Plants of Hawai'i*; including all native plant species; and no plant species should be added at this time but identifying the need to comprehensively plan for the conservation of native plants
- Instead of trying to identify a subset of species found on a particular island (e.g., those endemic to Kaua'i or those for which Kaua'i is important habitat), take a broader approach – either include all known from the island or focus on key species that typify a habitat. Otherwise, lists between islands appear inconsistent (especially where limited by information gaps). Alternatively, take a broad approach so as to be an information source and provide protection to a larger range of native species
- Clarify that SGCN includes non-threatened and non-endangered species – the prevalence of listed species leads to confusion about other species
- Recommend tiering SGCN (e.g., vulnerable, endangered) to reflect that certain species require special, species-specific management. Others disagreed, stating that critically endangered species already receive attention and tiering could detract attention from species that are historically ignored
- Support the inclusion of all native invertebrates – because while a few are listed, there are hundreds with the potential for listing, but there just is not enough information available yet (e.g., drosophila). In addition, new species are collected on nearly every survey

### ***Threats***

- Highlight threat of smallmouth bass to native freshwater species; other non-native stream species as threat to terrestrial invertebrates
- Development as a threat – particularly the increase of formerly open lands being fenced/gated and of former agricultural land being converted to residential development
- Fire, especially due to arson and especially in low elevation dry areas, needs to be emphasized as a threat
- Existing regulations are sufficient; the real problem is a lack of enforcement
- Poaching, particularly of marine species, is perceived as a major problem

- Sedimentation of streams and run-off to nearshore reefs is a threat to all islands, as is stream diversions
- Add or highlight threat of ants, feral cats and dogs, rodents, rabbits on Saddle Road, feral chickens, rats, parasitoid wasps and flies, avian disease, feral ungulates (cattle, pigs, goats, mouflon), loss of seed dispersal and changes in habitat, real estate development, light pollution, barn owls, introduction of snakes on island of Hawai‘i
- Highlight threat of pigs, goats, kāhili ginger, strawberry guava as additional threats on Kaua‘i
- Highlight threat of ungulates in general (not just axis deer), feral dogs, feral cats and cat colonies, parrots, *Euglandia rosea* (carnivorous snail), hybridization of koloa maoli, competition from alien species as additional threats on Maui
- Information gaps are a serious threat for invertebrates – surveys are needed as is compilation of unpublished information. Other invertebrate threats include alien invasions, habitat loss, loss of native plants, parasitism, biocontrol, and coqui frogs (and other predators)
- Stress the threat posed by invasive species – key threat facing species in Hawai‘i today. Threat of disease to important dominant plants – especially ‘ōhi‘a and koa – is particularly of concern and would be devastating to a full range of native wildlife in the State
- Add global climate change as a threat
- Add ballast water and hull fouling as potential vectors for invasive species
- Major threat relating to invasive species is that there is no funding for prevention, just eradication, but the best money is spent on prevention

### ***Conservation Actions***

- Highlight that restoration is part of conservation
- Need for post-fire restoration needs to be included
- Need to state more clearly that restoration for biological integrity is needed
- Suggest a conservation goal of no net loss of streams
- Suggest adding stream corridors to the Conservation District as a means of increasing protection
- Suggest streamlining Conservation District rules for beneficial conservation projects (such as fencing)
- With invasive species, need a strong statement about the need to control established plants (or animals) and preventing their establishment in still-pristine areas
- Clarify that implementation of existing management plans or continuing existing management programs is a priority
- Existing management needs consistent dedicated funding; current funding is not adequate
- Develop a strategy for post-fire response, as well as for improved interagency fire prevention and fighting
- CWCS should reflect that game hunting and conservation are compatible
- CWCS should reflect that game hunting and conservation are incompatible

- Add eradication of cats from Kaho‘olawe
- Highlight need to continue proactive prevention of invasive species introduction
- Add need to develop standardized information gathering protocols for project types – so information can be compared across years and funding agencies
- Need partnerships to keep light-free areas dark, and to reduce light pollution in areas where light exists
- Actions to respond to invasive species should emphasize the need to erect and maintain ungulate-proof fences, the need for control of established invasives, and the need for early action and rapid response
- CWCS should recognize need to increase inspections of cargo with known potential pests (such as Guam) and monitoring around airports, emphasize the need to establish inter-island quarantine, and identify proactive measures to combat invasive species introduction (such as concrete fences around airports, other ports of entry)
- Emphasize Safe Harbor Agreements and habitat conservation plans and the need to provide technical assistance or funding to support their preparation
- Improve collaboration at the field level (e.g., multi-disciplinary surveys) to increase understanding of interactions between species (plants, invertebrates, and birds)
- Emphasize need to develop information collection and information sharing protocols – require information distribution to an identified repository as condition of funding. Consider incentives to encourage release of survey information on private lands
- Include recommendation to explore ways to mitigate the effects of channelization
- Emphasize need for better communication between agencies with regulatory responsibilities so that actions can be more coordinated and impacts of regulatory action in the larger context are recognized
- Community involvement and community-based management needs to be emphasized
- Include incentives for water diverters/water users to take actions to mitigate impacts of diversions on stream life
- Encourage interagency collaboration – especially between terrestrial and aquatic managers/regulators
- Recognize the important role the military plays (and can play) as partners in native wildlife protection – from active management of areas for conservation, to creation of de facto refuges by secure zones, to ability to partner regarding enforcement
- Explore the importance of demonstration projects as a way for increased community involvement
- Recognize that some non-native species provide good habitat or food for native wildlife (especially in wetland and coastal environments) – e.g., not all non-natives are invasive or ‘bad.’ Also, recognize the difficulty of restoring native communities and the need to *transition* from non-native to native to prevent negative impacts to native wildlife (e.g., avoid clear-cutting non-natives and replanting, because native plants may not survive the first planting)

- Recognize the importance of community action – including the community effort to get Kawai Nui recognized as a Ramsar Wetland of Importance
- Support research to determine where ‘excess’ birds go when protected areas have reached capacity – to identify appropriate actions to prevent protected areas from becoming a source for a sink
- Increase actions regarding land use changes and opportunities these present
- Recognize the island of Hawai‘i is big – especially in comparison to the other islands and so conservation needs to occur at a landscape level
- Incorporate cultural aspects of wildlife conservation, an example is seabirds (petrels were cultivated and harvested)
- Include more specificity in the document – make it easier to implement and to monitor
- Review the current State list of injurious wildlife for additions
- Support Hawaii’s participation in a national initiative by the National Science Foundation called National Ecological Observatory Network (NEON) that will have a 30 year time frame and deploy sensors to monitor different habitats and their interactions
- Support mechanisms to allow interagency pooling of funding (e.g., PCSU, CESU)
- Clearly recognize need for more funding as a major constraint on current management and current invasive species response
- Encourage habitat conservation, rather than species-specific actions
- Build on existing plans
- Think creatively in using existing sources of funding or finding new partners
- Explicitly include the need to conduct hands-on actions like captive propagation for critically rare species
- Work with DOE to develop curriculum for local schools to teach about Hawaii’s natural resources and conservation; develop internship programs with local universities to better connect students with agencies/organizations needing assistance
- Streamline permitting process for conservation actions
- Update the list of noxious weeds; better yet, change policy so the default is nothing gets in unless on the ‘approved list’ rather than letting in anything not on the ‘bad list’
- Expand invasive species control beyond the ISCs; need better coordination and discussion of priority species and how to control. Replicate Maui ‘drive-by weed assessment’ on other islands to better understand what is present and what the appropriate response is
- Recognize that some hunting units should not be managed for recreational opportunities but for conservation (game removal)

### ***Priority Areas***

- Expand draft priority areas for potential conservation management: too limited in scope. Should reflect areas identified as recovery habitat, areas identified as critical habitat, areas that are facing immediate threats, areas that are actually in use by species of greatest conservation need

- Clarify how priority areas were selected – maps may unintentionally omit areas
- Maps do not illustrate well important areas such as offshore islets, coastal areas, anchialine ponds, wetlands, lava tube systems, riparian corridors
- Priority areas miss some areas that would provide important habitat if there were restoration actions or more active management
- Identify priority areas using a watershed/*ahupua'a* perspective – recognize the difficulty of protecting wetlands and bays without protecting the areas above (mountains and stream corridors)
- Suggest noting which areas are highly managed, which areas are managed but underfunded for management needs, and which areas are not managed at all
- Existing managed areas should be priority areas, must continue to stay managed in the future
- Suggestion that once HI-GAP analysis complete, revisit the issue of priority areas to ensure no areas missed or use to help identify priorities
- Priority areas should include both freshwater streams that are relatively pristine (so that they can be protected) and areas (particularly in middle reaches) that are less pristine but are threatened and still of biological importance. Existing water quality maps could be used to begin process to designate priority streams

### *Marine systems*

- Integrate the marine with the terrestrial to reflect the *ahupua'a* model and the impact of shoreline actions on marine environment (development, coastal alterations, sedimentation)
- Emphasize information on the issues specifically facing aquatic systems
- Include discussion of Marine Managed Areas in each individual island discussion
- Include areas for black coral habitat as priority areas
- Include ship groundings as well as ship strikes as a threat
- Include discussion on light pollution
- Highlight potential harm caused by oil spills and existence of oil response team
- Emphasize threat of water quality
- Consider reinstating *kapu* system rather than creating new managed areas
- Include reference to development of new Marine Managed Areas
- Include reference to marine invasive species plan
- Include threat of recreational use, encouraged by guidebooks promoting sensitive habitats for recreation
- Recommend that State impose a license for all fishing. Others opposed imposition of a fishing license
- Identify need to research areas used by seabirds at sea to evaluate possible protections or management actions
- Fisheries bycatch should also mention dolphins as well
- Additional marine threats to highlight include bleaching and disease, hull fouling and ballast, ship grounding should be added to ship strike, lighting on coasts, recreational overuse should be supplemented with “commercial” overuse, e.g. fish trade for aquarium, what about whale watching industry?

- Include consideration of overharvesting of non-fish species and include policies to address this threat

### ***General Comments***

- Aquatic systems (i.e., freshwater streams) need to be better integrated with the terrestrial elements of the CWCS as they are linked and affect one another. Focusing on stream corridors might be a useful way to link upland to the coast and to better protect the whole resource
- Incorporate success stories into the CWCS (e.g., nēnē)
- Encourage taking an *ahupua'a* approach to conservation
- Emphasize habitat and protection at a habitat level more
- How will the CWCS actually be implemented and what does the CWCS really mean for partners and for the public? Will it determine future funding priorities?
- How will the SGCN list be maintained?
- How will information collected through implementation of the CWCS be maintained? Concerns were expressed regarding disclosure of sensitive information to the public (e.g., concerns that collectors may trespass onto private lands if a particular species is present)
- How will activities be prioritized? Suggestion to prioritize based on protecting areas falling outside of currently managed areas. Suggestion to not prioritize, because conservation success will depend on factors beyond biological need (community support, landowner interest, funding availability, etc.)
- How can the State DLNR, with perceived conflicting mandates, lead a CWCS without addressing and resolving some of their internal conflicts – such as the incompatibility of game hunting and conservation? Encouraged better internal communication and a need to update internal policies
- How strongly will the State DLNR be acting to implement the CWCS, now that important actions are identified as needed on State lands? How will implementation fit in relation to other management mandates?
- Will the review process occur more often than ten years? How will there be accountability of the implementation?

### **PUBLIC COMMENT RECEIVED ON DRAFT CWCS AT PUBLIC MEETINGS JUNE-JULY 2005**

#### ***Kaua'i***

- Plants should be included in the CWCS if it truly is to be a comprehensive document, in light of the huge number of endangered plants and the important role of many natives (specifically koa, 'ōhi'a, hala, and lama) in the ecosystem
- The CWCS should include discussion/acknowledgement of GMOs (genetically modified organisms) - the impact of GMOs on wildlife is not fully researched but is possible considering documentation (by this member of the public) of nēnē eating GMO corn. The CWCS should explore the need to review use of State lands for GMO research
- Development is a significant threat - to native wildlife and to open space. Specific comments included: need to hurry and protect areas such as the Salt Pond

Area (considered by the speaker as a priority area for both wildlife and for cultural significance) before the landowner tries to develop it fully

- Urbanization is a problem – there needs to be more restrictions to ensure development does not result in sedimentation/runoff (non-point source pollution) to adjacent properties and the ocean
- Additional threats important to Kaua‘i include: feral pigs and goats - impacting landscape all over the island, creating wallows for breeding mosquitoes, causing siltation and sedimentation of freshwater and marine resources - impacting the ‘o‘opu and hihiwai as well as the fish in the coastal flats
- Need to clearly recognize that there should be areas for conservation where the goal is removal of all ungulates and other areas for hunting
- Feral chickens - what is their impact on threatened or endangered species, and if the Department doesn't know, it should consider this research and not treat chickens any more favorably than other introduced animals
- Support for the protection of threatened and endangered species
- It is likely that all the north shore reefs are of quality to warrant protection
- Marine threats are comprehensive, and the CWCS should develop objectives to parallel every identified threat
- Encourage collaboration with regional watershed councils as much as possible
- Is there a connection between military/Navy testing and whale beaching? CWCS should address this issue

### ***Moloka‘i***

- CWCS should address residential development (off-islanders cutting off traditional access as develop and build fences around homes)
- CWCS should address the need to conduct enforcement of existing rules (mentioned repeatedly)
- ‘Ilio Point to Kalaupapa is important seabird habitat where there is a need to control cats and pigeons
- There is a need for more surveys on bat distribution on Moloka‘i
- Plants should be included in the CWCS, especially island endemics
- The East Moloka‘i watershed area east of Kapualei is a priority area
- Streams on the north coast of Moloka‘i - Waikolu, Wailau and Pelekunu - are of high importance with full array of native wildlife
- CWCS should consider the re-introduction of historic birds
- Marine debris a huge problem - disturbing limu production along some shorelines
- Sewage issues of east end homes along ocean may contribute to algal growth
- Utilize *ahupua‘a* concept as a framework in planning; native rights must be preserved
- Additional 'no fishing' zones should be identified to improve seed stock
- There needs to be a policy developed to address expanding "eco-tourism" activities before they become a problem to the resources

### ***Maui***

- Emphasize prevention of introduction of new invasive species and the need to improve both prevention capacity and detection/response capacity for those that are introduced
- Recognize the connection between the land and the reefs (including the direct harm from runoff/pollution)
- Planning has been done. Instead, what is needed is to take action and address issues. Put actual resources into doing something
- Recognize the importance of water - and clean water - to Maui and Maui's species and the problem of politics relating to water use and policy
- Encourage reforestation
- Include opportunities for local communities to have a say in planning
- Expand enforcement capacity
- Consider an airport tax on visitors to help pay for invasive species prevention
- Incorporate accountability in the CWCS
- Expand MPAs (marine protected areas) to protect all the marine eco-types
- Consider closures of areas to all type of activities, not just a few (e.g., if close to fishing should also close to tourists snorkeling)
- Provide ways to educate both residents and tourists about natural resources and conservation actions

### *Lānaʻi*

- Recognize need to prevent invasive species introduction from Maui, especially at Mānele Bay with the ferry from Maui
- Implement erosion control on windward side
- Ensure Lānaʻi's natural resources receive attention and are not forgotten
- Conduct bird surveys to determine which native birds are still present on the island
- Recognize need for coastal protection – especially on the northeastern portion of island
- Include restoration as well as protection as needed conservation actions
- Recognize need to increase funding for enforcement

### *Hawaiʻi*

- For data collection, consider talking with old-timers to gather information
- Existing surveys are woefully inadequate to determine status of species
- Overview of permitted animal rehabilitators is inadequate
- Hawaiʻi is the endangered species capital of the world, yet the agricultural inspection happens as people leave, not when they enter. There should be twice as stringent inspections for entry
- Commercial shipping, nursery plants, and Christmas trees should undergo thorough inspections or treatments. Unfortunately, feel little is being done currently. Also, there is no reason to import plants – should require nurseries to sell local stock only. Should focus on known problem importers (e.g., places that have sold or continue to sell invasive species)

- Consider instituting a tax on plant imports – regressive, so that the more is imported, the higher the tax. Would provide a disincentive to import and promote local supply
- Need a bigger emergency fund to deal with detected invasives – so early response can be effective
- Mosquitoes are a major vector – so CWCS should aim to eliminate mosquitoes since the technological capacity now exists
- Turtles are a threat to marine fish by eating all the algae, leaving nothing for the fish, and attracting sharks. Turtle season should be open again
- Most of the conservation problems stem from a lack of funding to address problems when they were small – is there any commitment for more money?
- What will the CWCS mean for private landowners? How can they be encouraged to participate? Many want to, but see hurdles – permitting problems, concern over later liability if species thrive, lack of information on options that would benefit the landowner and native species
- Cattle do not harm the dryland forest; it is the goats and sheep. Cattle can help reduce fountain grass through grazing and it is cheaper and more effective than herbicides
- Federal government has a history of regulating – State should avoid too much regulation
- Kapa Maly has a CD available summarizing the history of fishing in Hawai‘i – a great resource on the cultural background of this activity
- Hawai‘i is the only State without a recreational fishing license – this needs to change. The license would be a revenue source and a way to gather needed information
- Regarding gill nets, instead of a flat ban, manage, like the West Hawai‘i Fisheries model
- The State should encourage local management wherever possible, using the West Hawai‘i Fisheries Council as a model. WHFC has local support for needed actions – reducing enforcement problems
- How does the CWCS fit in with all the other planning initiatives ongoing – coastal zone management, ocean sustainability, etc.
- Aquarium fish collection is another area where the State loses money by not taxing or at least monitoring the collection
- Manta rays should be considered vulnerable species
- Marine protected areas are a great idea that the CWCS should explore
- Pollution in Hawai‘i is mainly too many nutrients – which can kill the coral reef
- Actions need to be proactive – it is harder to address problems late
- Hopefully the CWCS will spill over to encourage land use policies positively impacting the environment
- State laws should limit the importation of birds
- How much money is there to implement the CWCS?
- Who will set the priorities regarding implementation of the CWCS?

- Though update every ten years, there are things that will likely happen in the interim (e.g., a potential new invasive species) – how will the CWCS account for this possibility?
- All agree that early detection and rapid response is needed – this is not new. The problem is in doing
- How will the CWCS deal with overlapping authorities/inconsistent involvement? (e.g., government, academics, research, citizens all with their own reasons for being involved and different level of resources)
- Concerned about ‘opae‘ula and anchialine ponds – there are three primary threats: mosquitofish introduced by Department of Health, introduced mollies, and introduced Tahitian prawns. Government took the lead in taking the steps backwards, but now wants to be in control of conservation? Need to explore the idea of task forces for specific species – made up of government, academics, private sector – to improve communications and develop the best plan of action for that species
- Genetically modified organisms (GMOs) are of concern – just approved in Kona and likely to impact native species
- CWCS discusses threatened and endangered species – and clearly loss of habitat is important. For birds, there is government and private cooperation. What about anchialine ponds? Approximately 95 percent of the habitat has been lost. Need to encourage actions on private lands
- Feral ducks may be disease carriers that threaten the native duck
- Cattle have played a huge role in harming habitat. State Land division does not monitor the number of cattle on leased land – need to recognize the need to have a management plan/policy
- Feral dogs, cats, and now chickens are a problem
- Do not institute licensing for recreational fishing; will create more enforcement difficulties. Instead, encourage more education and voluntary catch reporting.
- CWCS should address cruise ship impacts, such as sewage and dropping anchor, and think proactively about addressing their impacts
- What’s the status of gill nets, and will a final policy address Native Hawaiian issues?
- What is the practicality of enforcing anything in the Northwestern Hawaiian Islands, especially foreign vessels illegally poaching? How big a problem is this?
- Shoreline encroachments are a serious problem – people illegally irrigating to get more vegetation (and thus more land) when getting their shoreline certifications – harming wildlife by reducing available habitat for turtles, monk seals, seabirds. The law needs to be clarified
- Does the CWCS address the need for monitoring emerging open ocean aquaculture?
- CWCS should identify the need to increase resources for enforcement – to increase enforcement capacity. Not just additional bodies, but also tools – like satellite monitoring of the Northwestern Hawaiian Islands or air patrols
- Recognize that enforcement officers are doing education and outreach too – often the first contact for the public

- CWCS is a huge task, and there is very little money for implementation (in comparison to the State's needs). Support the effort and support the State not relinquishing any authority to the Federal government
- Turtle protection is a conservation success – ban on eating has resulted in greater populations. Education has been effective
- Aquarium fish collecting policy is another success – setting aside certain areas for replenishment areas (with no take). Both collectors and locals are not happy – so likely the policy is a good one
- State has a mandate to run a sustained yield hunting program, but also has a mandate to protect endangered species and outplant native plants. There can be co-existence between these two programs
- Are there areas where game birds are a problem? Do they predate on native species or compete with them?
- Is there a year or timeframe when the evolutionary process is determined to stop? (e.g., what about birds that find their way here naturally and begin to evolve)
- CWCS needs to recognize half of life is reality and other half is perception. Need to work on the perception side so that people voluntarily participate in conservation. When talk about enforcement, rules, many perceive as a negative. Instead need to transition discussion to positive. Example is the island's exceptional tree law – recognizing exceptional trees creates an incentive for people to value it and not want to cut it. Might want to create similar programs for native species. There are many examples of great stewardship in the private sector already, so a recognition program could be easy to establish. This would involve the community in conservation
- CWCS needs to focus on commonalities and not a 'divide and conquer' strategy. Aim for the middle, and then build on that support with education, propaganda, and recognition for good work
- CWCS should also include stiffening penalties on habitat degradation (such as discharge of untreated waste in Forest Reserves) – current law treats this as a petty misdemeanor and violators receive a slap on wrist. Not a large deterrent, especially if the profit outweighs the costs of getting caught
- Ecotourism facilitates greater public access into areas. Need to keep an eye on this trend so that resources are not damaged before anyone notices

### *O'ahu*

- Include plants as species of greatest conservation need – plants are important component of ecosystem in which animals live and have value of their own as well (high levels of endemism)
- Plants were here first before animals
- Plants have unexplored medicinal uses – so CWCS should ensure their long-term protection too – for our future benefit
- Fire is a huge threat, particularly due to arson
- Aquatic threats include pollution, drought, and flooding, waste management policies (illegal dumping), uncontrolled development
- Direct take is a threat, particularly of many marine species

- Strategy should be proactive and positive, with a vision of where we see Hawai‘i in the future
- How will the CWCS really make a difference – general conservation objectives are great but not really new. How is this process and plan different from past efforts?
- Many invertebrates (e.g., *Drosophila* flies) are highly host-specific and this may assist in identifying specific plants to be covered in the CWCS
- Invasive species strategy should follow the New Zealand model, should include landing fees to fund needed improvements at airports
- Draft CWCS does a great job pulling together a lot of information, but determining actual/highest priorities from the array of strategies is difficult
- CWCS should identify need to connect folks currently working in isolation – encourage more collaboration and communication
- Real need in Hawai‘i is more money – without more funding, the CWCS will be like any other plan
- CWCS omits discussion of fishponds, which do host bird populations. Though many are privately owned, they are important for restoration of marine fish and birdlife
- Regarding the use of gill nets in the strategies section, the current wording supports the continued use of gill nets. Rather, the strategy should be to examine banning the use of gill nets altogether
- There are many resources available in Hawai‘i – the need is connecting different resources together
- Recognize the importance of proper management of the coastal dune ecosystem
- Emphasize the importance of preventing the introduction of new invasive species
- Nearshore nutrification is a threat; could be impacting nearshore fisheries and the nearshore limu (algae) community
- Recognize the concept of community-based management and their role in enhancing enforcement capacity
- Oil spills are a marine threat – and not limited to tankers but pertains to research vessels too
- The need to protect Ni‘ihau’s marine resources both for the species and for the local indigenous community should be recognized
- Commercial use continues to expand and can see initial negative impacts to species (reduced ‘ōpihi) – maybe should explore self-regulation of tourist activities (e.g., boat tours, hiking tours)

### ***Incorporation of Feedback from Public Open Houses and Technical Workshops for Hawaii’s Comprehensive Wildlife Conservation Strategy***

Ten major themes emerged during this series of public outreach and participation events held on the six islands. They were addressed and incorporated in the following ways:

#### ***The need to increase invasive species preventative measures***

The concern over increased entry of invasive species into the State was heard on every island. People identified the need to increase preventative measures and improve the capabilities of rapid response to the arrival of new invasives. Strategies on how to support this were added in Chapter 4 as well as specific strategies on each island as identified during public open houses and workshops (Chapter 6, Island Conservation Needs).

***The need to emphasize ongoing actions in currently managed areas***

Currently managed areas for conservation such as National Parks, National Wildlife Refuges, National Marine Sanctuary, Natural Area Reserves, Wildlife Sanctuaries, Watershed Partnerships, Private Reserves, and others were always recognized in the CWCS as important areas for conservation of native wildlife and habitats. However, language in each of the island sections (Chapter 6) as well as in the statewide section (Chapter 4) was added to clarify this importance and further emphasize these areas as priority for continued management. Additionally, these chapters outline the future support needed for conservation actions that require additional funding to achieve goals and objectives.

***The need to include plants as listed Species of Greatest Conservation Need***

Native plants were always recognized in Hawaii's CWCS through its approach in emphasizing the need for habitat-level management and by recognizing plants as important hosts for native invertebrates, as food sources for native birds, and generally as habitat for native wildlife. However, as a result of the feedback garnered through public open houses and technical workshops, flora are now also listed specifically as Species of Greatest Conservation Need (SGCN). For terrestrial plants, specific species listed as SGCN include threatened and endangered plants, genetic safety net plants (plants with less than 50 individuals left), plants with identified animal interactions, and dominant and co-dominant plants in one of the recognized natural communities in the *Manual of Flowering Plants of Hawai'i*. In addition, endemic terrestrial algae were included. These species were selected based on recommendations made by the Hawaiian botanical community. For aquatic flora, all endemic plants and algae were included.

***The need for increased compliance with existing conservation rules and regulations and increase enforcement***

Many comments were raised on how Hawai'i was not in need of new rules or regulations for conservation, but in need of better compliance with enforcement of already existing rules and regulations. The issue of compliance was separated out as its own major threat and strategies were developed to increase enforcement and compliance in Chapter 4.

***The need for more funding to support on-the-ground conservation actions***

The lack of both consistent and long-term funding was identified as a major conservation challenge by many. Without funding to conduct research, implement conservation actions, hire staff, enforce laws, carry out monitoring, and conduct other priority conservation measures, protecting native wildlife and habitats is impossible. The lack of funding has been pulled out as its own identified major threat. Additionally, instead of being a strategy, enhancing funding has been added as a brand new objective with its own

strategies identifying potential new funding mechanisms and ways of leveraging existing funds in new ways (Chapter 4).

***The need to continue to support involvement of communities in conservation efforts***

The role of communities and involvement of citizens in conservation projects and activities is one of the reasons why Hawai‘i has several conservation success stories. To continue to support these initiatives, the important role of communities and community involvement in conservation is highlighted as strategies in both the statewide and island conservation needs sections (Chapters 4 and 6 respectively).

***The need to highlight freshwater resources and better integrate them with terrestrial and marine sections***

In Hawai‘i, the connection between issues affecting both land and sea are important. For example, habitat loss and degradation in the watersheds affect freshwater streams and water quality, which in turn affects marine habitats through sedimentation and pollution. To further emphasize these connections and integration of habitats and threats, additional information was provided for freshwater habitats and the threats facing these areas in the statewide overview (Chapters 3 and 4). Similarly, objectives and threats to freshwater habitats identified in the statewide and marine chapters were better integrated and repeated or added to in the island sections on freshwater resources (Chapter 6).

***The need to highlight conservation threats such as development***

The Strategy is required to identify and describe threats to Species of Greatest Conservation Need. Major threats are identified at the statewide level (Chapter 4) as well as at the marine (Chapter 5) and island levels (Chapter 6). However, one consistent threat heard at the public open houses and technical workshops was the concern over development, particularly of open spaces and along streams and shorelines. To address this, development and shoreline alterations have been pulled out as threats under “Loss and Degradation of Habitat.” Fire as well as sedimentation has also been similarly added. Other threats identified at the island level have been added in the island overviews (Chapter 6).

***The need to prioritize actions***

Given the great conservation needs and limited funding available to address these needs, people felt that further prioritization of actions was necessary in the Strategy than had already been done. As a result of this feedback, in Chapter 4 Statewide Conservation Needs, highest priority strategies were identified under each of the seven conservation objectives listed. These strategies were selected based on the degree to which they would contribute to conservation over the next ten years, strategies that need to occur first before other strategies can be implemented, and feedback during the technical workshops and public open houses held during the months of June and July.

***The need to highlight additional areas that would benefit from future conservation management.***

The public scoping draft recognized areas that could benefit from increased conservation management. Many individuals or groups highlighted additional areas for this section.

These additional areas were considered for addition, evaluation for future additions, or additions to include in on-going processes (e.g. marine managed areas re-evaluation).