

**Summary of Invertebrate Conservation Strategy meetings
Honolulu 9/24 and Hilo 9/28**

ICS Meeting, Honolulu 9/24

Attended by:

Ryan Hoan	UHM-CCRT
Brenden Holland	UHM-CCRT
Luc Leblanc	UHM-PEPS
Jesse Eiben	UHM-PEPS
Adam Vorsino	UHM-PEPS
Robert Cowie	UHM PBRC-CCRT
David Foote	USGS-BRD
Ken Kaneshiro	UHM-CCRT
Will Haines	UHM-PEPS
Frank Howarth	Bishop Museum
Randy Kennedy	DLNR-DOFAW
Dan Polhemus	DLNR-DAR
Vince Costello	Army Biological
Lorena Wada	USFWS
Daniel Rubinoff	UHM-PEPS
Mike Richardson	USFWS
Cynthia King	DLNR-DOFAW
Betsy Gagne	DLNR-DOFAW

The meeting began with a powerpoint presentation by facilitator Cynthia King, which outlined background info on the CWCS, impetus for the ICS, and current objectives and possible short-term and long-term goals which could be pursued. (For a copy of the presentation see attached document: **ICSpresentation_9.09.pdf**). Discussion occurred during and after the presentation, and touched on a variety of issues including:

- 1) Whether all invertebrates should be addressed in the same forum in the context of this strategy. We recognize that the diversity of organisms represented by the ICS is incredibly broad...but it is likely that conservation strategies to protect many of these species are comparable. It was agreed that to lump all invertebrates together is not an ideal position to be in, but we have to start somewhere.
- 2) How to avoid reinventing the wheel with regard to data organization and database development – do we actually need another database? Who/what were good resources to utilize to provide a foundation for database development if we pursue development of a geodatabase (NPS - Kelly Kozar, Heritage Database, USDA snail database, DIG, in addition to Bishop, Army Environmental, DAR)
- 3) The CWCS strategy has a lot of good information in it already. We can use the document as a basis for what we know about many lands/species, and expand from there. Review the species summaries to determine whether the proposed management and research recommendations are adequate.

- 4) It would be helpful to have an economic analysis of conservation \$\$ going to invertebrate conservation vs. terrestrial bird, bat and plant conservation in Hawaii. \$\$ vs. # species targeted/biodiversity represented. Something to give context to the importance of our cause, and the historical and current lack of funding/representation.
- 5) It is difficult to strategize about management and research decisions, with so little info being available for many species. However there is a great deal of historical data available to examine, and present data for many species. GIS can help us determine/estimate biodiverse areas if we utilize it to model habitat distribution for species. That is a concrete tool available to address some of those fundamental questions.
- 6) That it would be helpful for DOFAW to standardize reporting formats as a way to facilitate data integration at a later date? When those with invertebrate permits submit their yearly reports, we can have a means of keeping data organized with the summary report as well as a species list spreadsheet. Were other people interested in helping develop these formats?
- 7) How will an ICS be useful? Besides having a document to cite for funding opportunities, we described how the recommendations might be used to guide state management/conservation decisions. Limited resources available at present, and could help prioritize actions/needs for the state (and the DOFAW entomologist)
- 8) Are we going to think about invertebrate conservation on a species level, or a habitat level? Some participants felt that habitat conservation is likely broadly effective for invertebrates. 'Species' was the only level at which protection was conferred for a long time, and while USFWS still lists/designates individual species... there is recognition that habitat-scale conservation might be more practical (e.g. USFWS critical habitat designations are becoming multi-species). Other participants felt that species-focused conservation works well to preserve habitats, and cited the wekiu bug. The conservation of this one species has been effective to protect several other arthropod species and numerous unstudied lichen species on Maunakea.
- 9) There was general agreement that it would be valuable to identify "flagship" species, and that marketing invertebrate conservation needs consideration, as well as faces. But how would we go about nominating them? By habitat, island, volcano? How many species? Working group? Total vote?

ACTION ITEMS (9/24 Honolulu Meeting)

- 1) **Send out CWCS species summaries to relevant specialists to comment, edit, make new recommendations for future management and/or research**
- 2) **Email solicitation to obtain initial list of potential "flagship" species for habitats/islands/volcanoes – once we have developed a list, vote on the best sellers. Work with outreach personnel at respective agencies to begin incorporating the species consistently in outreach and education.**
- 3) **Cynthia King will continue to survey known database resources to determine what fields might be incorporated into a Hawaiian Invertebrate Database, and whether data managers might be willing to share their data**

- 4) **Cynthia King will create a draft standard report format and species list format for use by DLNR-DOFAW permit recipients (those who would like to review the draft should contact her)**
- 5) **Will Haines and David Foote (and any other ICS members) will contribute ideas for a ‘future research ideas document’ which can be provided to new/incoming graduate students, researchers, etc.**
- 6) **ICS members will meet quarterly to discuss progress, set additional priorities/goals (hope to coordinate meetings around other major meetings/conferences/workshops to increase attendance). The next Honolulu meeting will likely be scheduled at Bishop Museum (there’s free parking there!)**

ICS Meeting, Hilo 9/28

Attended by:

Karl Magnacca	UHH
Jon Price	UHH
Bill Gilmartin	Hawaii Wildlife Fund
Robert Hollingsworth	USDA-ARS
Tracy Johnson	USDA Forest Service
Bob Peck	USGS-HCSU
Pat Conant	HDOA
Don Price	UHH
Cynthia King	DLNR-DOFAW

My apologies for not having everyone go around the room to introduce themselves! The meeting began with an outline of the topics covered in the powerpoint presentation from the 9/24 meeting. (Again, for a copy of the full presentation see attached document: **ICSpresentation_9.09.pdf**). Discussion covered topics that were outlined in presentation, and ideas presented by participants at the 9/24 meeting. Hilo participants offered a variety of new talking points and ideas to propel the ICS forward, including the following:

- 1) Potential value of determining invertebrate indicator species to use for habitat monitoring, measuring environmental change – reviewing the NPS-I&M use of indicator species as a potential model
- 2) How to make sure that invertebrates are considered when reviews of EA’s, EIS’s, HCP’s pass through DLNR-DOFAW...talking to State of Hawaii OEQC to ensure that comments are obtained from the appropriate people (i.e. at least the entomologist)
- 3) Discussed whether it could be valuable to choose specific habitats to survey extensively (e.g. FS Experimental Forest style) or whether we should be spreading out survey efforts to cover a diversity of areas which might otherwise be over-looked and under-surveyed.
- 4) There may be existing threat classification systems other than the Gagne index of rarity, and the New Zealand threat classification manual. Ex. Karl Magnacca has developed one for *Hylaeus*.

- 5) Potential for establishing an annual Invertebrate BioBlitz (inspired by the annual insect count in HAVO) in areas of particular concern which lack invertebrate survey data. (For example, areas that are being considered for NARS?) The concept would be to get as many invertebrate specialists as possible, in addition to undergraduate students, to conduct a rapid assessment of a particular area. Not everyone would have to participate in the field work, as we would also need sorting, pinning and identifications to be completed following the event. Specialists could complete identifications for groups they are familiar with, and remaining samples could be sorted to morpho-species to obtain an idea of the biodiversity of the area in question.
- 6) Tracy Johnson initiated previous efforts to obtain funding for an invertebrate database through FS, and he shared that a critique of the previous proposal was that it was perceived as narrowly supported. This feedback is valuable - a broadly supported statewide ICS (which includes \$\$ for database development) is likely to be more competitive for funding.
- 7) Importance of developing not just a list of research topics, but of research localities to encourage research in (can reference CWCS and DLNR list of proposed NARS)
- 8) There was general consensus that the database could be an important component to future research and management decisions for inverts, and facilitate data exchange for broader ecological studies.
- 9) We can/should begin thinking of, and documenting grey literature resources for an invert database (so we know where to start looking when the time comes data mining)

ACTION ITEMS (9/28 Hilo Meeting)

- 1) **Hilo participants supported the action items developed during the Honolulu meeting**
- 2) **Organize working group to plan the first Invertebrate Bioblitz (those interested please contact Cynthia King). Must decide on location, date, standardized sampling methods, obtain commitment of field time/tools/lab time from ICS members.**
- 3) **In addition to a list of important ‘future research ideas’, a list of important ‘future research localities’ should also be developed. (It was suggested that could be accomplished by David Foote and Will Haines, working in conjunction with the BioBlitz working group...)**
- 4) **Examine/summarize/review broad management recommendations and threats from CWCS**
- 5) **Tracy Johnson will share previous invert database grant proposal with Cynthia King.**
- 6) **ICS participants will inform Cynthia King of any requests for proposals for funds from their respective agencies in the near (and/or not so near) future**
- 7) **Cynthia King will try to organize quarterly ICS meetings in Hilo as well as Honolulu (hope to coordinate meetings around other major meetings/conferences/workshops to increase attendance)**