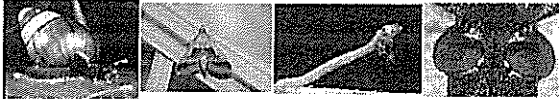# Statewide Invertebrate Conservation Strategic Plan Meeting

24 September 2009

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DLNR-DOFAW, NARS program

Introduction

- Motivated by the Comprehensive Wildlife Conservation Strategy – DLNR 2005

  - developed to meet USFWS funding requirement for a State Wildlife Grant program,

  - included invertebrate species summaries, current management actions and limited management recommendations

  - broad support from collaborators, including state and federal agencies, non-profit groups, and the public

  - *our goal is to surpass the CWCS mandate, and develop a more specific strategy directed towards conservation of native invertebrates in Hawaii*

Introduction

- The development of an ICS is being initiated by DLNR to improve the current tools available for those participating in native invertebrate conservation, management, and research

- DLNR holds the constitutional and statutory authority to protect wildlife resources in the state

- Conservation strategies identified, and tools developed, will be implemented by multiple partners as well as the DLNR

What is an ICS?

... a comprehensive plan in which we will outline strategies for the long-term conservation of invertebrate species and habitats in which they occur, as well as short-term goals which can be achieved more immediately to improve current conservation efforts

... collectively developed by state and federal resource managers, researchers, NGO's, and supported by the general public

(...not trying to reinvent the wheel!)

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7 priority CWCS objectives for the State (CWCS 2005)

1) Maintain, protect, manage, and restore native species and habitats in sufficient quantity and quality to allow native species to thrive;
2) Combat invasive species through a three-tiered approach combining prevention and interdiction, early detection and rapid response, and ongoing control or eradication;
3) Develop and implement programs to obtain, manage, and disseminate information needed to guide conservation management and recovery programs;
4) Strengthen existing and create new partnerships and cooperative efforts;
5) Expand and strengthen outreach and education to improve understanding of our native wildlife resources among the people of Hawai'i;
6) Support policy changes aimed at improving and protecting native species and habitats; and
7) Enhance funding opportunities to implement needed conservation actions.

What will ICS deliverables be?

1) An official state document which compliments the CWCS, but is specific to invertebrate conservation. Supported by collaborators, and signed by the governor. Able to be referenced by all!

2) We must collectively decide we want the additional deliverables to be – (this will be the hard/fun part)
   - Data management system
   - Working groups
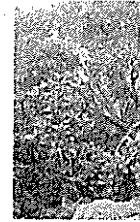   - Regular meetings for information exchange
   - Marketing strategy

ICS Objectives (defined thus far)

1) identify and prioritize invertebrate conservation needs for species and/or habitats of greatest concern across the state
2) analyze existing expertise, and research completed to date to understand gaps in our knowledge base
3) identify and prioritize applied management strategies which address/mitigate current threats to invertebrate conservation
4) develop a standard method of classifying threats to, or status of, given species
5) develop a means of measuring conservation successes
6) identify and prioritize future research needs
7) examine current and future funding sources available to pursue action on items 1-7.

Strategy (Objs. 1 & 2)

- **Obstacle:** We want to prioritize conservation of ecosystems to maximize invertebrate biodiversity (species richness, ecological/taxonomic uniqueness) and ecological function, however we do not have all the data necessary on which to base those prioritizations

- **Temporary solution:** Form a working group where members qualitatively rank ecosystems/habitats in order of conservation priority (based on assessment of existing and future threats, and current knowledge of species diversity). Review specific land area management recommendations from CWCS.

- **Long-term solution:** Develop centralized, geo-referenced database, which includes everything from historical museum data to present survey/collections. Standardize permit reporting forms, and possibly museum specimen data forms to initiate data gathering process for eventual input into a database. Revisit ranks.

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Strategy (Obj. 3)

- **Obstacle:** It is difficult to direct management for invertebrates specifically (especially when we have no data for most)

- **Temporary solution:** Establish a working group to identify and prioritize applied management actions we know work across habitats (fencing, ungulate control, rat control, *Vespula* and ant control, outplanting, quarantines). Review specific management recommendations from CWCS.

- **Long-term solution:** Continue to research and monitor efficacy of management actions on invertebrate populations. Initiate a review process to summarize recommendations from EA's, EIS's, and HCP's for particular localities, and taxa

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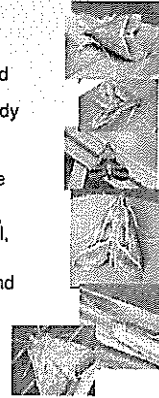
Strategy (Objs. 4 & 5)

- **Obstacle:** It is difficult to determine the status of invertebrate species given the lack of data available for most (and impossible to determine status of those which are yet to be described). No collective definition by which to measure progress.

- **Temporary solution:** There are already systems being utilized! Establish a working group to review USFWS species review process, the New Zealand Threat Classification system manual, Gagne Index of rarity, etc.

- **Long-term solution:** Based on an initial determination of what can be applied to Hawaiian invertebrates, develop and apply a new threat classification system, and decide on units by which we may measure progress

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Strategy (Obj. 6)

- **Obstacle:** We all have our own interests and biases, and we need to branch out (or encourage others to do so) into areas of study which are not currently represented.
- **Temporary solution:** Establish a working group to identify future research topics in the following fields: ecosystem services, biological anomalies, conservation genetics, phylogenetics/systematics, biological control, applied management, conservation policy
- **Long-term solution:** Continue to expand and edit the research topics list each year. Encourage agencies, universities, and non-profits to review the list when embarking on new research projects

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Strategy (Obj. 7)

- **Obstacle:** BAD, BAD time to obtain funding from the state, museums, and NGO's. Potentially good time to be looking at federal funds
- **Temporary solution:** Establish a small working group to research funding opportunities for the ICS, as well as any of the supporting projects
- **Long-term solution:** Apply for as many grants as possible. Commit to the long-term strategy, and volunteer to work on the ICS without the promise of immediate funding.

How to standardize records

- **Long-term objective:** Develop centralized, geo-referenced database, which includes everything from historical museum data to present survey/collections
  - Multi-user Oracle database
  - GIS capability
  - Ex. DAR watershed atlas database: http://www.hawaiiwatershedatlas.com/
  - $$$$
- **Short-term objective:** To establish a standard method for documenting species records, and associated ecological data.
  - Standard permit reporting forms for DLNR-DOFAW - will be required (ex. specialists often summarize historical data)
  - Standard museum specimen data forms?
- **Form working group to help select database fields, permit reporting forms, and museum forms?**

Other strategies we might consider

- Marketing: our internal ICS strategy will need to differ from what we market to the public
- Should we consider identifying flagship* species for each of the habitat types? (Must be charismatic!!!)
- Try to incorporate insects into environmental education and outreach to a greater extent
- Long-term strategy for raising awareness of native insects
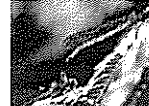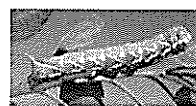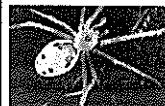
For now: working groups?

1) Qualitatively ranking habitats/ecosystems
2) Prioritize existing management strategies
3) Review threat classification systems
4) Future research needs
5) Research funding resources
6) Develop reporting forms, database fields
7) Identify flagship species to represent habitats

Frequency of ICS meetings?

• Quarterly, bi-annually, annually?

• Working groups more frequently?

8 elements of CWCS (CWCS 2005)

1) Information on the distribution and abundance of species of wildlife identified as "species of greatest conservation need," including low and declining populations, as the State fish and wildlife agency deems appropriate, that are indicative of the diversity and health of the State's wildlife;

2) Descriptions of the locations and relative condition of key habitats and community types essential to the conservation of species identified in (1);

3) Descriptions of problems which may adversely affect species identified in (1) or their habitats, and priority research and survey efforts needed to identify factors which may assist in restoration and improved conservation of these species and habitats;

4) Descriptions of conservation actions proposed to conserve the identified species and habitats and priorities for implementing such actions;

5) Proposed plans for monitoring species identified in (1) and their habitats, for monitoring the effectiveness of the conservation actions proposed in (4), and for adapting these conservation actions to respond appropriately to new information or changing conditions;

6) Descriptions of procedures to review the plan at an interval not to exceed ten years;

7) Plans for coordinating the development, implementation, review, and revision of the plan with Federal, State, and local agencies and Indian tribes that manage significant land and water areas within the State or administer programs that significantly affect the conservation of identified species and habitats;

8) Provisions to ensure public participation in the development, revision, and implementation of projects and programs.