



Refinements to Steps 1 and 2: Spatial Analysis

**ESA STAKEHOLDER WORKSHOP
(JUNE 29 - 30, 2016)**

Refinements 1 Summary

- ▶ In accordance with the Endangered Species Act (ESA), the Biological Evaluation (BE) determines whether there is a potential for a single individual of a listed species, or its designated critical habitat, to be adversely affected (directly or indirectly) by a federal agency's proposed action (in this case registering pesticide labels).
- ▶ For agricultural uses, the interim process identifies potential use sites by collapsing >100 Cropland Data Layer (CDL) classes into 11 agricultural use categories, some of which are unambiguous major crops, e.g., corn, cotton, *etc.*, and some of which are aggregated "minor" crops, e.g., orchards and vineyards, or ground fruit and vegetables. (These minor crops were aggregated to address uncertainties in crop identification in the CDL, and to anticipate future use areas for pesticides, based on current uses.) Therefore, in some cases, specific crop uses are being identified in areas where the specific crop likely does not occur.
- ▶ Example: The orchard-vineyard layer is used for all orchard crops, including citrus. Diazinon is registered for some orchard crops but not for citrus. The spatial analysis is showing orchard use sites for diazinon in Florida, but most of those use sites are likely citrus.

CHARGE QUESTION 1: Is there a better way to accurately identify potential agricultural use sites, while still addressing concerns for future use for the duration of the proposed action?

- ▶ One way to increase accuracy of footprints is to get a better read of these footprints by utilizing other layers to validate them. Other datasets, including NLCD, use “developed” classes to identify “spurious pixels.”
- ▶ Another option is to compare the presence of labeled uses with Ag Census and survey information to mask the CDL. This option would confirm whether any false positives were created by the way the aggregation was conducted.
- ▶ Reaggregation of the CDL crop grouping is being evaluated.
- ▶ Undisclosed/Low usage: A third option is to examine a state total and back out all the acres except those in one county. By taking the undisclosed value counties, adding up all other counties with actual values, then taking the difference, we can apply those values to the undisclosed counties. Because something is undisclosed, though, does not necessarily mean it is a “low usage”.

CHARGE QUESTION 2: Is there a better way to accurately identify potential non-agricultural use sites, while still addressing concerns for future use for the duration of the proposed action?

- ▶ Utility of state specific data sets for identifying non-ag sites. National data sets were originally used in developing the national process; however, utilizing more state data, as in Hawaii, Florida, and California with large amounts of endangered species, could be very meaningful
- ▶ Use of 2015 Hawaiian agricultural land use baseline data set could be helpful
- ▶ Use of private vendors who have great data but typically sell at a stiff price
- ▶ Use of Homeland Security data if feasible
- ▶ Use of pesticide general permit data under the Clean Water Act
- ▶ Clarifying non-ag labels to determine specifically where pesticides are being applied
- ▶ Ask state DOTs, etc. to determine how much of the chemical is actually being used
- ▶ Use of ADCI “Tom Tom” data to identify public parks, golf courses, etc.

CHARGE QUESTION 3: How can we better identify potential use sites for pesticide uses that do not have clear geographic boundaries? How could these potential use sites be better identified spatially?

- ▶ Majority of mosquitocides are highly restrictive and mostly government applied. Speak with IR-4 and local applicator organizations about mapping areas of common use, intensity of usage, etc.
- ▶ Consider seasonality, tax base, population, and tourism components of mosquitocide use when identifying potential use sites.
- ▶ Some states consult directly with local fish and wildlife organizations to make annual plans for spraying in the event of an emergency (e.g., hurricanes). This effort could be scaled up to the national level in the form of a “nationwide mosquito bulletin.”
 - ▶ Exceptions are made for protection of public health and property; consultations occur afterwards
- ▶ Explore the idea of combining “steep slope” information in any national data sets (e.g., cattle ear-tags as cattle are not grazing on steep slopes)

CHARGE QUESTION 4: Are methods available that would allow for a refined understanding of the distribution of individuals within the range polygons?

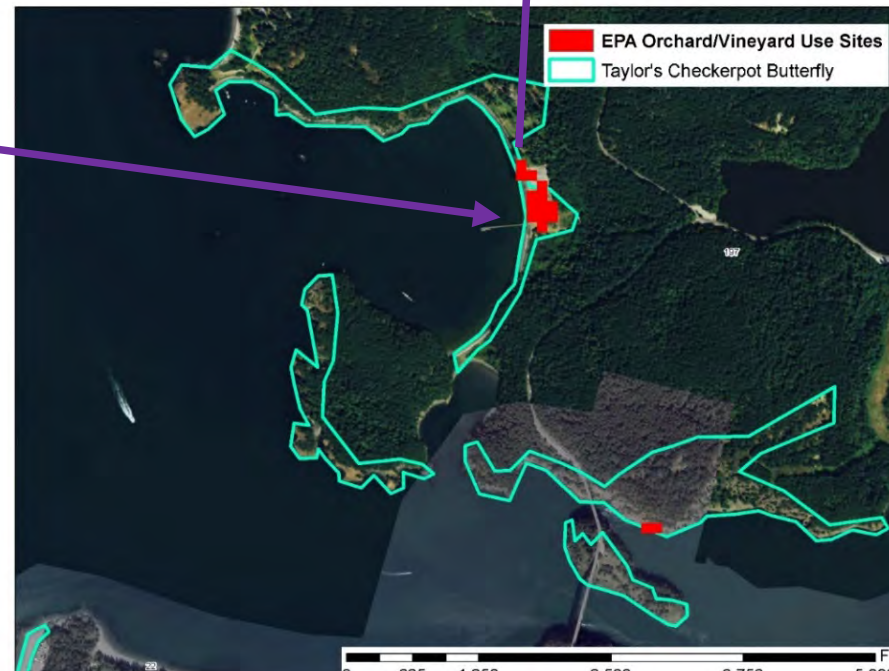
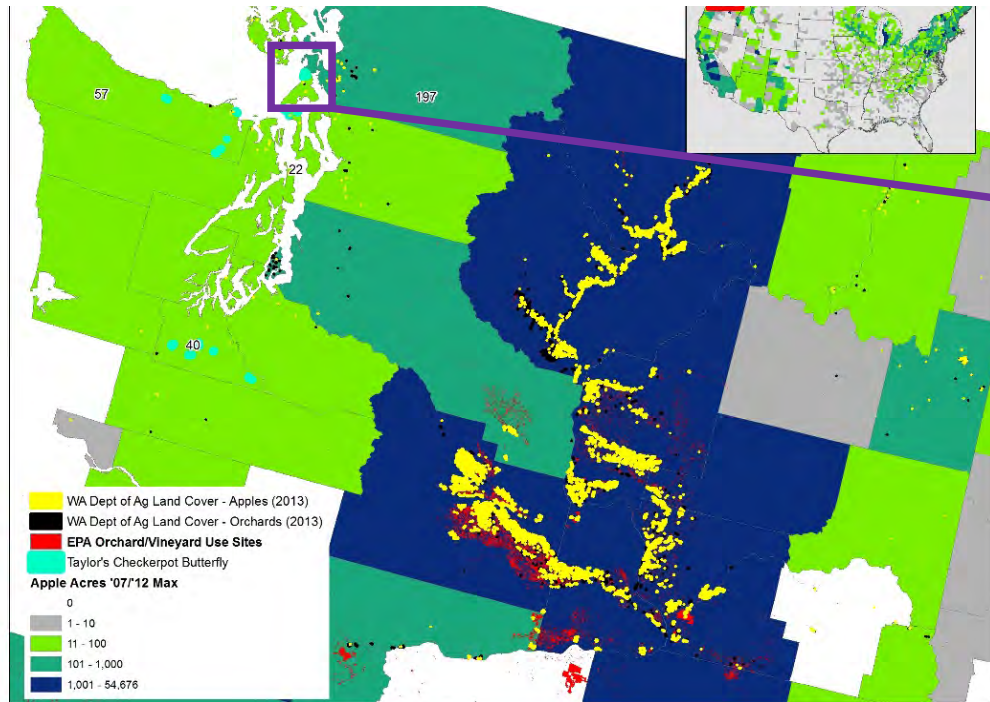
- ▶ Agencies working together to get species mapped out by “suitable habitat”
 - ▶ Uniform habitat mapping policy for FWS field offices
- ▶ Proxies and models for species suitable habitat based on ecological systems
 - ▶ Third party contribution to augment existing data (e.g., Species Distribution Modeling); transparency is important.
- ▶ Identifying “low hanging fruit” for short-term refinement (e.g., using existing GAP habitat suitability models)
- ▶ Opportunity to improve spatial/temporal refinement
 - ▶ Data standards, prioritization of data, use of case studies
- ▶ Weighting of data by certainty, quality, recovery units, and habitat condition
 - ▶ “First pass” to determine best return on investment
 - ▶ Wide-ranging vs. narrow endemics

CHARGE QUESTION 5: Does the overlap approach used in the pilot draft BEs to determine a 'May Affect/No Effect' determination provide an adequate screening process (one that is protective but not unrealistically conservative)?

- ▶ Correction and refinement of land cover data
 - ▶ Systematic evaluation for errors and the overlay land cover data with land use data (e.g., "Tom Tom" data, USGS Protected Areas Database)
 - ▶ "One-off" error notifications
- ▶ Site specific mitigation as part of informal consultation
- ▶ Creation of a multiple parameter weight of evidence system
- ▶ Development of comprehensive screens for particular species in steps 1 and 2
- ▶ Coincidence in time as well as in space included in determinations

Taylor's Checkerspot Butterfly Example

- Orchard/Vineyard Use Sites
- Park misidentified as orchard



Refinements 1

Questions?