IP Peer Review Notes from 10/31/12

Introduction

- Comparison between IP and EDT—relative values and differences—why IP can be applied even where existing data is lacking and over geographically specific and smaller areas
- How to be applied—not only for showing where quality exists, but also to help give clout for issues like land acquisitions; standard basis of evaluation across region, even where field tracking is limited or not possible; another tool for resource funding
- Concern over whether this tool/process can be taken up for other purposes—"managing watershed"
- Weights can be changed from "defaults" where good reasons exist to generate a new "default list
- Concerns/discomfort—honest evaluation desired to determine IP value
- Depends on what the application is—biologists may be able to use IP to determine where the best areas of conservation are. When it gets political, you run into problems—one of the attractions is its simplicity (while scientists take time to develop more detailed maps, habitat and conservation is being lost).

Chinook Mapping

- Bear River: general impression good—some bedrock reaches. The value is in spawning and rearing.
- The map assumes no culvert barriers.
- Checkerboard for Chinook is meaningless for rearing because as soon as spawning takes place, the fish move downstream.
- Lump red and orange colors for Chinook.
- Based on given parameters, it's good. But based on what fish actually use, it's not a good representation—you don't see Chinook in the higher reaches.
- Queets River: shows Chinook use Salmon River, but they don't really. Quinault National USFW Hatchery has had no success with Chinook on Cook Creek—they don't like it.
- There is a disconnect between actual utilization by fish and potential shown by the parameters used.
- Fish use mainstem but not far up tributaries.
- Add summer low flow as a parameter to expand.
- Actual usage is more important than potential unless looking at manmade factors.
- Challenge in our area is lack of many manmade factors as opposed to Puget Sound
- Potential has more value in rivers with more manmade problems.
- Like to see red where areas are critical/most important
- Queets conclusion: not a good portrayal of what Chinook actually use

Chinook Habitat Suitability

- Index curves:
- Range of barriers worked into IP model as parameter/index curve—permanent versus changing barriers
- Extrinsic parameters: LWD changes—pool assessments?; LWD sufficiency within system
- Curve reflection point could be pushed higher than 3.5% in gradient.
- Focus on intrinsic values—core system—now and work out extrinsic values later.
- Minimal channel width cutoff? Varies according to species and run time—not a measure of cutoff but measure of flow.
- Seasonal use—add seasonality as index to take care of that
- IP value goes to zero above 4%--how certain is that?
- Use as a guide for ground truthing.
- Question is: is there a way to do a minimum gradient as well as a maximum gradient?
- Flow velocity as potential variable (careful not to let this model become EDT)
- Variables have different meanings for spawning and rearing.
- Decision to apply only to spawning and not to rearing.
- Asymptotic approach more appropriate? Create a "best guess" logarithmic curve.
- Decision to keep zero and redefine it as "Low Probability."
- Sub-regional models—separate Quillayute System into individual rivers or separate salmon run times. Definitely separate run times.

Coho Mapping

- Modeling different life stages? Would that be as valuable with land management? Might be more valuable because you can show where a reach has value and when—avoid the field perspective of "what good is this habitat?" at certain times of year
- No substitute for field knowledge

Coho and Steelhead Habitat and Suitability

- Coho can go into smaller channels than other species if the gradient is okay--.5 meters a good cutoff

Mapping Conclusions

- Rates of flow and rates of change of flow need to be included in parameters.
- Top 2 categories (color curves) should be lumped together.
- Middle curve—dubious as to its value
- Bottom 2—take or leave
- Consensus: not a good basis for habitat value on just the 3 parameters used
- Wetland rearing component

General conclusions

- Both groups came to same conclusion that multiple maps are needed for each run—seasonal maps for run times
- Any more valuable than all the other fads in the past at evaluating habitat? Value lies in the GIS base—if we can make this work it will be a universal breakthrough.
- Models should be seen as a tool that can be used and improved over time—careful of wide distribution so maps are not misinterpreted or misused.
- Continual drive to increase data points in model to increase value and accuracy. A lot of independent streams need to be ground truthed—geo referenced surveys
- Where data exists, check models. Where good fish distribution exists, where old data exists, possible to check accuracy and build up data sets to within 100 feet (Hoh data)
- Careful of releasing good spawner, etc data—fishermen and public abuse