

Greetings Colleagues:

Many of you attended the Healthy Lands Summit in 2007, and participated in discussions about how we can balance the needs of biodiversity conservation with those of agriculture and economic development. The Initiative for Rural Innovation and Stewardship (IRIS) has launched a new pilot project that will build on the results of the Healthy Lands Initiative and demonstrate how the Washington Biodiversity Conservation Strategy released last December can be implemented at a regional level.

Part of the current project is to localize and improve the Conservation Opportunity Framework map for NCW that illustrates biodiversity values and future risks, so it can serve as a functional tool for local planners and municipalities. The first task associated with this effort is to gather existing local, high-resolution infrastructure and land use data in a GIS format that can be combined with the existing map developed from a number of federal and state datasets, e.g., NatureServe, State Heritage Program and others. Once completed, this product will help both the planning and conservation communities understand the relationships between the built environment and natural resources and habitat.

To meet this goal we would like to bring together a group of people with local knowledge to look at the combined map and identify corrections needed to reflect current and future projects that are still in the planning process. As someone who is familiar with the region, its resources and its challenges, we would like to invite you to help us with this process of creating a meaningful, workable final product.

For the planning community, new requirements to consider the climate change impacts of projects or planning proposals have created new challenges. Attempting to describe the relationship between projects, ecosystem impacts, and global climate change can be daunting. Ultimately, we hope to offer an online, interactive version of the combined biodiversity/risk map as a tool that will assist local planners and municipalities in addressing the climate change impacts of a particular project or proposal could create.

Please join with us in this important process by sharing your existing data, knowledge, and expertise with the IRIS project team. We encourage you to participate in an upcoming video-conference in Wenatchee, Omak and Olympia on **October 13, 1:30-3:30 p.m.** and learn more about the Washington Biodiversity Council and the NCW pilot project.

We are also requesting that you send GIS data layers that contain your local parcel data, infrastructure, critical areas, and planned projects. Please contact Susan about the logistics of gathering that data (either via ftp site, DVD, or portable drive) that will be used to localize a review copy of the map in October. If you don't have data layers to contribute but are interested in reviewing the draft product please let Susan know.

Thank you very much for your time and for your consideration. We look forward to working with you on this important regional project.

Sincerely,

Susan Driver
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The NCW Biodiversity Council: Connecting People to Sustain Our Natural Heritage

Initiative for Rural Innovation & Stewardship

Draft Scope of Work

Objective 1: Combined Conservation Opportunity Framework Map

Project Summary: This overall project will: (1. produce a combined, non-regulatory Conservation Opportunity Framework map for NCW that can be used to develop strategies and prioritize the use of incentives and other tools needed to advance land conservation, agriculture and economic development across the region; 2) organize a regional biodiversity council that will work in partnership with that at the state level, and; 3) establish network and website needed to support NCW photo-monitoring trail system, *Looking for Change*, as a means for engaging citizens in monitoring biodiversity management actions and trends. Project term is August 2008 – June 2009.

Activities and Timeline: Objective #1: Develop combined Conservation Opportunity Framework map for NCW that can be used to inform the needs of the NCW Regional Biodiversity Council by November 15, 2008.

Task 1.1. Work with Jesse Langdon, GIS Analyst, The Nature Conservancy, to produce combined Conservation Opportunity Framework map for NCW that can be used by local planners to identify shared understanding of current and future development actions by September, 2008.

Background: The Conservation Opportunity Framework maps were developed by the Washington Biodiversity Council to determine spatially explicit priorities at the regional level, based on existing information about biodiversity and human growth, the major driver of biodiversity decline across the state. Biodiversity information is derived from the recently completed ecoregional assessments www.conserveonline.org, data for human growth from Western Futures www.centerwest.org/publications/pdf/futures.pdf. In both cases data sets were limited to those available for the whole state, consistent, and relatively simple. Developing more accurate projections of the human growth potential for NCW through the use of local data sets including GMA, zoning densities, and other information will make this map more useful to the region.

Task 1.2 Convene retreat of local county and municipal planners and GIS technician(s) to work with TNC, WDFW and Washington Biodiversity Council staff and select board members to review, amend and update impacts information to better reflect and serve local and regional interests by October 31, 2008.

Working Team Member List:

Nancy Warner, IRIS

Amanda Taub, Douglas County/SMD Solutions

Jesse Langdon, The Nature Conservancy

Susan Driver, SMD Solutions
 Nick Manzarro, Wenatchee Valley Transportation Council
 Lisa Parks, Alliance Consulting Group
 Amy Clark Eagle, Washington Department of Fish & Wildlife
 Perry Huston, Okanogan County
 Gene Wyllson, Okanogan County
 Chris Branch, City of Oroville
 Mike Kaputa, Chelan County
 Brian Frampton, City of Wenatchee
 Brian Frampton, City of Wenatchee
 Connie Krueger, City of Leavenworth
 Mark Kulaas, Douglas County
 Curtis Lillquist, Douglas County

Potentially useful data sets:

Data Layer	Data Source
State threat layer	State
Roads	Wenatchee Valley Transportation Council
Bridges	State, Counties
Airports	State, Counties
Railroads	State, Counties
Tax parcels	Counties
Residential Development Projects - current & future	Counties
Commercial Development Projects - current & future	Counties
Wildlife habitat	State
Plant habitat	State
Stream lines	State, Counties
Water bodies - polygon shapes	State, Counties
State boundary	State
County boundaries	State
Irrigation Districts Canals	Irrigation Districts
Power lines	BPA, PUDs
Water systems - pipe lines & storage	Water districts
Sewer systems - pipe lines & storage	Sewer districts
Stormwater systems - culverts, ditches, etc.	Stormwater departments, Counties & Cities
Aerial photos	State, Counties
Recreation - parks, rec facilities, etc.	State, Counties
Public Land Survey System (PLSS)	State, Counties
Dams	State, Counties
Soils	NRCS
Pit sites	State, Counties
digital Flood Insurance Rate Maps (FIRM)	Federal
Topographic contours	Counties
Cities/Towns	State, Counties
Urban Growth Boundaries	Counties
Mineral Resource Lands	Counties
Land Use Zoning	Counties
Population - current & future forecasts	State, & Federal Census

North Central Washington Biodiversity Council

Methodology for Refinement of the Washington Biodiversity Council Conservation Opportunity Framework

Jesse Langdon, October 2008

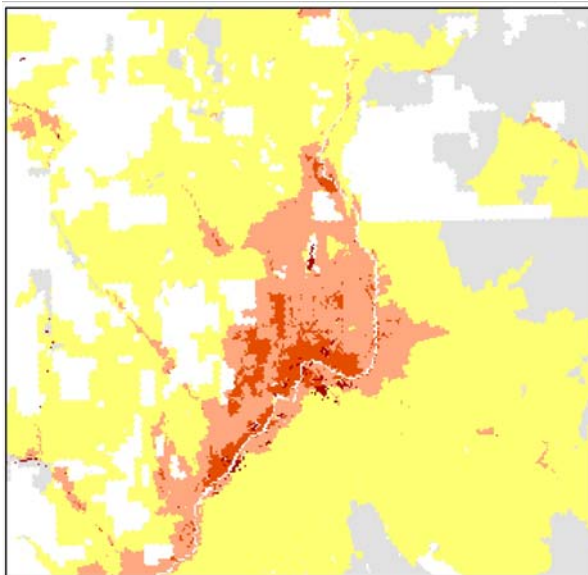
Overview







In December of 2007, the Washington Biodiversity Council published the *Washington Biodiversity Conservation Strategy*, which includes a series of Conservation Opportunity Framework (COF) maps. The purpose of the Conservation Opportunity Framework is to help guide investments in acquisition, management, stewardship, and restoration activities throughout the state. These COF maps illustrate, by ecoregion, biodiversity values and future risks to biodiversity in each landscape.

The Biodiversity Council “based future risk on the likelihood of increased land conversion and development and a corresponding increase in human impact on the natural environment. Areas ranked high are at risk of significant degradation to existing native biodiversity in the next 30 years if directed conservation actions do not take place” (Chapter 4, pg. 101). The statewide future risk map was derived from the Western Futures Growth Model, which was based on data from the 2000 U.S. Census. While this map serves as a generalized guide to targeting threat abatement efforts across the state, a more refined, higher-resolution future risk map should be developed at a regional scale to better inform local conservation practitioners, county, and municipal planners.

Proposed Methodology

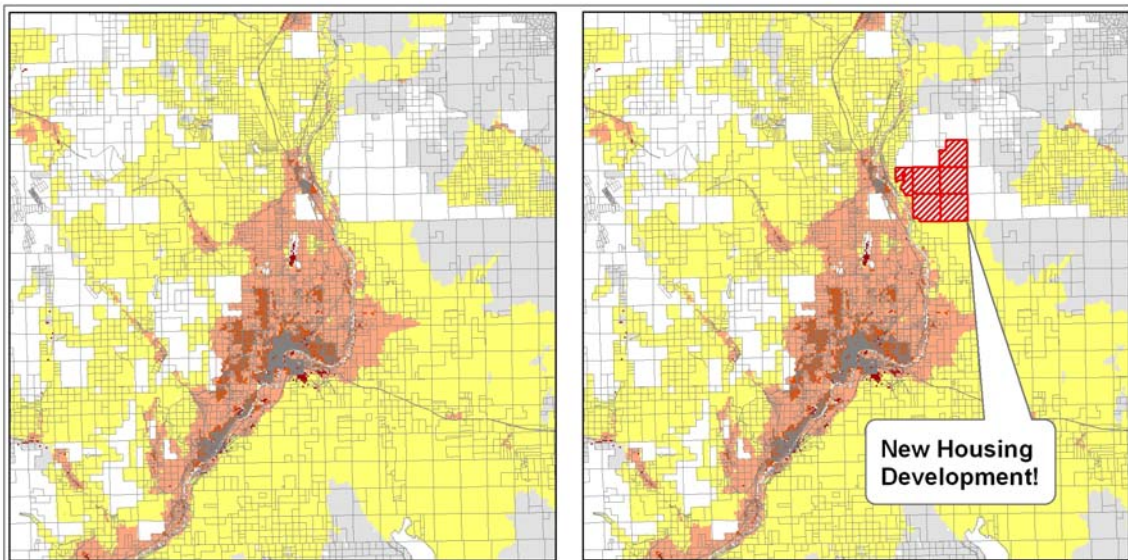
In order to build a high-resolution, localized future risk map, we will use a recently developed dataset which predicts future housing density in 2030 using the Spatially Explicit Regional Growth Model (SERGoM v1), created by David Theobald of Colorado State University. This dataset will be clipped to the NCW project area (Okanagan, Chelan, and Douglas counties), and will eventually be classified into 5 risk categories: Very High, High, Medium, Low, Very Low. The dataset is based on 100 meter pixels.



Urban/built-up		= Very High
Exurban/urban : < 0.6 - 10 acres / unit		= High
Rural II : 10 - 40 acres / unit		= Medium
Rural I : > 40 acres / unit		= Low
Undeveloped private		= Very Low
Public Land		

This dataset is based on a predictive model, and will most likely not sufficiently reflect localized growth patterns and development. We will use feedback gathered during the workshop to augment and refine the 2030 predictive data. Feedback will be gathered from workshop participants using the following methodology:

- 1) Each workshop sub-group will have a hard-copy map of the future risk datasets clipped to one county. This map will serve as a talking point and general guide. Each sub-group will also be accompanied by a GIS analyst who will have access to a the same GIS project (on a laptop), which will include the following layers:
 - 2030 predictive housing density
 - County parcels
 - Roads
 - Energy infrastructure
 - Current land use (if possible)
 - Biodiversity value
- 2) Each county parcel dataset will have three new fields - Risk, Source, Comments. The GIS analyst will record feedback from workshop participants by selecting parcels and adding tabular information for the selected parcel records. i.e. a county planner notices that the predictive 2030 housing density maps shows an areas as undeveloped, but the planner knows of a pending housing development or transportation corridor project. Those parcels that will be affected will be highlighted, a relative "Risk" will be assigned, the name and organization of the participant as a "Source", and details on the development will be entered into the "Comments" field. The opposite situation may occur as well - the predictive data shows an area as under high risk, but development of the area will be restricted by future protection efforts, so the "Risk" will be recorded as lower than what was modeled.
- 3) Parcel data records that have been updated with workshop feedback will be converted into a pixel-based format and "burned" into the predictive map, which will then be reclassified as Very High, High, Medium, Low, and Very Low Future Risk.



This effort will primarily be focused on private lands. Public lands (which show up as blank in the previous illustrations) are not included in Theobald's housing density predictive modeling. However, there are future risks to biodiversity present on publicly-managed lands. For the North Central Washington area, one of the primary threats to biodiversity are forests with altered fire-regimes. Using LandFire Fire Regime Condition Class data, we can create a future risk map for public lands based on how far a fire-dependent forest has departed from its historical fire regime. This will most likely be incorporated during a later iteration of the NCW project.

Conservation Opportunity Framework Map Planners Retreat

October 24, 2008

10 a.m. – 3:30 p.m., Key Bank, Wenatchee

Participants: Brian Frampton, Wenatchee City; Greg Story, East Wenatchee; Nick Manzano, Wenatchee Valley Transportation Council; Julie Morgan, Upper Columbia Salmon Recovery Board; Connie Krueger, Leavenworth; Lisa Parks, Alliance Consulting; Chris Branch, Oroville City; Perry Huston, Okanogan County; Susan Driver, Entiat City; Jesse Langdon, The Nature Conservancy; Leonard Bauer, Washington Biodiversity Council; Kate Stenberg, Washington Biodiversity Council; Amy Clark Eagle, Washington Department of Fish & Wildlife; John Thoren, IRIS; Nancy Warner, IRIS

Agenda:

Welcome & introductions

Background on Washington Biodiversity Council, WDFW Wildlife Action Plans, and NCW Biodiversity Council

Washington Biodiversity Council Land Use Committee

Integrating Biodiversity into Local and Regional Plans

Biodiversity Values Map

Developing the NCW Conservation Opportunity Framework Map

Next Steps

Following welcome and introductions Amy Clark Eagle joined the meeting via phone. She explained that while she will be leaving her position as the Wildlife Action Planning lead for WDFW soon she will ask Rocky Beach or Elizabeth Roderick to step in and work with the NCW pilot project until a new planning lead is hired.

Nancy presented a brief presentation on the Washington Biodiversity Council since Leonard and Kate were running late due to traffic problems. Amy presented an overview of the Wildlife Action Planning process via phone before Nancy provided some background on the NCW Biodiversity Council pilot project. Nancy agreed to make all three Power Point presentations available to the group for review and reference.

Leonard described the role of the Land Use Committee that he chairs for the Washington Biodiversity Council. Members of this committee will work with the NCW pilot project team to support and troubleshoot the work. He noted that the Council wants to determine, how the information in the maps can best be used to manage local programs.” Julie asked if the Council was working with WWRP and the Salmon Recovery Board to set common priorities for funding. Leonard said that was not happening yet. Kate then described two case studies or success stories that used biodiversity information to help craft and prioritize the use of non-regulatory tools for resolving local and regional land use planning issues.

With this background, the discussion moved to the process and the products associated with the Conservation Opportunity Framework map. Lisa and Brian noted that the

counties lack pure science that can be applied but also need to know the source of the data and the assumptions used in the models that were used to shape the biodiversity values map. All agreed that it is important to involve map users, e.g., planners and elected officials, in creating the products that they will use to guide decisions. Nancy said this retreat is the first step in that process for this pilot project. Connie emphasized how important it is to be concise about how the various tools such as the biodiversity values and Conservation Opportunity Framework map can be applied. Nancy noted that one additional product IRIS could help put together as part of the pilot would be an interpretive guide to the various biodiversity planning tools available.

Julie raised questions about the extent of freshwater data used in creating the existing product. Jesse described the data used in the map and the model that was used to create the values. He also explained that since different ecoregional assessment groups used different assessment units, i.e., hexagons v hydrological units, the East Cascades or Chelan County portion of the map is the only part of the existing map that includes freshwater biodiversity – the other portions of NCW only reflect terrestrial biodiversity. He can fix that given enough time. Julie added that it would be useful for our region to integrate finer resolution information for freshwater such as that obtained through the recent Lidar work.

Jesse talked about the need to respect confidentiality of the data from private lands used in the map, i.e., Heritage data that describes the location of rare species. The scale and resolution of the biodiversity values map, assessment units covering X # hectares/acres, is such that a user cannot tell exact locations.

There was discussion of the importance of language used to describe the components of the Conservation Opportunity Framework map, particularly the use of the word “risk”. All agreed that other words such as likelihood of development, buildable lands or potential growth would be better and less judgmental than risk. The group also thought that the COF map could be useful to planners for:

- identifying areas where there would be the least resistance to development in terms of biodiversity values
- identifying areas to keep as open space to provide connections across the built landscape
- providing a tool that can be used to facilitate community discussions, i.e., overlaying multiple objectives could bring new opportunities to light such as shoreline and water management plans, salmon recovery, critical areas, etc.
- defining future urban growth boundary adjustments
- identifying opportunities for cluster development
- developing strategy relative to transportation and connectivity
- clarifying the boundaries between known scientific data points and the assumptions and projections of the model provides planners with a window into what and where changes could be applied.

Next Steps

#1 Map land use categories and use to overlay existing biodiversity values map for Chelan County including: urban growth areas, LAMIRDS (suburban), resource lands (minerals, forest, agriculture), rural lands (conservation)

#2 Develop inset with priority areas for biodiversity planning at parcel level

#3 Revise biodiversity values map for Okanogan and Douglas counties to use watershed assessment units and to include freshwater biodiversity

#4 Overlay regional land use categories on revised Conservation Opportunity Framework map

#5 Nancy will send out Power Point presentations, notes and information about the November 5 morning meeting with Chelan and Douglas county planners as well as future conference calls with the Biodiversity Council Land Use Committee so group members can participate as available.

#6 It was agreed that a half-day meeting with lunch on a Friday would be the best time to regroup to review the revised map

Initiative for Rural Innovation & Stewardship (IRIS)

Connecting People, Facilitating Change

NCW GIS Service Center Manager

Draft Prospectus

Purpose

To provide IRIS and our partners with GIS analysis support needed to use the data in the Conservation Opportunity Framework maps and other resources to inform strategies and actions.

Objectives

- Gather and maintain GIS database of information layers including Esri access to software
- Work with IRIS and partners to prioritize workload and to develop business plan for NCW GIS Service Center
- Respond to inquiries from partners and other clients
- Work with IRIS and partners to pursue additional funding opportunities as appropriate

Skills Needed

- GIS analysis skills; ability to translate client needs into maps that help people work together in coalitions to develop effective and feasible strategies
- Human geography, geography, physical geography background; BA level
- People skills; sense of humor a must
- Ability to translate technical information for non-technical users
- Creativity; strong sense of place

IRIS is a lean, entrepreneurial, and community service driven organization built to handle change. Our staff are guided by a board and supplemented with contractors as needed.

Estimated Expenses

\$30,000 - \$40,000/year to support staff; \$6,000 to setup plotter and computer.

Revenues

Earned income, grants, and contributions.

2/16/09 DRAFT NOTES

NCW Conservation Opportunity Framework Map Review

Friday, February 13, 2009

10:00 a.m. – 1:00 p.m., Key Bank, Wenatchee

Participants: Brian Frampton, Wenatchee City; Greg Story, East Wenatchee; James White, Upper Columbia Salmon Recovery Board; Chris Branch, Oroville City; Susan Driver, Entiat City; Marla Olson, Douglas County; Mike McKee, WSDOT emeritus, John Thoren, IRIS; Nancy Warner, IRIS. Via conference phone; Jesse Langdon, The Nature Conservancy, John Carlton and Elizabeth Roderick, Washington Department of Fish & Wildlife.

Purpose: Review draft terrestrial NCW Conservation Opportunity Framework map, freshwater NCW COF map, and reach agreement on revisions and next steps.

Background: Nancy recapped the NCW Biodiversity Council pilot project goals and objectives and provided an overview of the process used to generate the COF maps for our region. She explained how the biodiversity values map rankings were derived through ecoregional assessments recently completed for the entire state. Occurrence and condition data for target species and natural communities were compiled for each ecoregional assessment and then ranked according to their irreplaceability (biodiversity) value through the use of the computer program, Marxan. The instructions to the computer for this analysis were to present scenarios that would conserve at least 30% of the known biodiversity in each ecoregion. Those portions of the landscape that were chosen by Marxan up to 250 times in hundreds of iterations were classified as having a high irreplaceability value. Those that were chosen 100-75 times were classified as medium and those selected between 25-75 times were deemed to have relatively low value.

Nancy described how Susan worked with Jesse and others last fall to gather data needed to create a land use category overlay of the NCW biodiversity values map. She showed the difference between the existing COF map for NCW that uses potential human growth as the highest risk to biodiversity conservation and the one Jesse created for NCW using land use categories: urban, rural/urban, resource, and rural. Since land use categories were either not assigned to public lands or treated in an inconsistent manner in the three-county area, much of that part of the land use category map overlay was assumed to be the same as rural. In order to simplify the land use overlay, Jesse combined urban and rural/urban into one category, rural and resource lands into a second, and public lands/no data into the third.

Nancy also showed the freshwater COF map for NCW – an analysis that Jesse completed for the state Biodiversity Council after the October planners retreat in Wenatchee. The biodiversity values for this map are based on that gathered through the freshwater portion of each ecoregional assessment. Given the scarcity of data beyond fish, surrogates for that diversity, i.e., macrohabitats including watershed area, elevation, geology and gradient were used to assign ranks. The freshwater COF map accounts for many more

threats than the terrestrial version including population & development, land conversion, hydropower dams, exotic species, Rotenone treatments, and climate change. As with terrestrial biodiversity, NCW has a number of regions that are ranked as both high biodiversity value and high risk. Copies of the ecoregional assessments and the statewide freshwater assessment are available in each county planning office and online. Nancy said she'll also try to get additional copies of the freshwater assessment CD to any planners who need it.

Jesse Langdon and John Carlton joined the group by phone for the second portion of the meeting. Jesse provided an overview of the process used to generate the terrestrial COF map explaining how he and Susan had crosswalked county-specific land use codes to create regional land use codes. They lumped as many as 100 different codes in Okanogan County; Douglas and Chelan counties had far fewer to contend with. The dark red portions of the map indicate places with high value biodiversity and high growth potential with the dark green areas indicating either public land or no land use codes. Brian noted that land use codes do exist for Chelan County.

Questions about some of the human growth potential as described by regional land use codes ensued. Chris asked about the Toat Coulee area of Okanogan County which is rural but shows up as dark red and high growth potential on the existing NCW COF map. This is probably due to the fact that much of the area is subdivided into 20-acre resource lands which would put it in the urban/rural regional land use category. Brian asked if slopes were considered in that much of the urban/rural land base in Chelan County cannot be developed due to this one factor. Jesse said that slope was not singled out for this analysis.

The group agreed that a more refined COF map would be based on agreed upon rules for how to split out the various land use codes between the regional land use categories. Jesse agreed and said that he does not have time to do this analysis given the limits of his remaining time with TNC. Mike noted that it would be useful to add the comprehensive plan as another data layer for the counties and that WSDOT has this data. Marla pointed out that for Douglas County the comprehensive plan and the land use layer are one and the same. The group also discussed the value of using zoning as an overlay since the regional land use categories are based on current or assessed land use.

James acknowledged that the Conservation Opportunity Framework maps are intended to be coarse and also that they can add value when used in conjunction with finer scale landscape analyses. He added that the freshwater COF map could be even more useful for planning if it could be overlaid with landscape components, i.e., floodplain, instream, riparian and uplands. Nancy said she would check with John Pierce at WDFW to see if this is possible for NCW. She will also speak with John about the possibility of getting the data-viewing tool for the freshwater COF map soon.

Recommendations:

The group recommended that the pilot project team generate two terrestrial COF maps for NCW that can be combined to show potential and current land use.

Map #1 displays terrestrial biodiversity and existing regional land use. Areas such as Toat Coulee, steep slope mixed urban/rural lands of Chelan County and other seemingly inconsistent portions of the map should be interpreted through footnotes. All agreed that that would be easier than trying to reassess lumping categories of individual land use codes from each county.

Map #2 displays terrestrial biodiversity and zoning as an indicator of potential human growth

Map #3 would combine #1 and #2 as overlays enabling planners to see existing use and potential use as defined by zoning.

Next Steps:

- Nancy will followup with John Pierce about getting the data viewing mapping tool for both terrestrial and freshwater COF maps for NCW. She will also see if he can have his GIS staff add the landscape components to the freshwater map as suggested by James.
- Nancy will also see if she can get the data layers used to generate the terrestrial and freshwater COF maps so the planners group can test their recommendation of creating a zoning overlay. If this looks like it will strengthen the use of the biodiversity information, IRIS will seek a local GIS analyst to work with the group to revise the regional land use categories map Jesse created.
- Brian agreed to host this followup meeting at the new Wenatchee City Planning Department office.
- James agreed to provide housing for the huge files on the Upper Columbia Salmon Recovery board server.

Nancy thanked everyone for coming and for the productive session. James noted that while the COF map is coarse, it will add value to the work he is doing at a finer scale. As he put it, “even if it is a different snowball rolling down the hill we will eventually all be in the same avalanche.”

4/21/09 DRAFT NOTES

NCW Conservation Opportunity Framework Map Review
Friday, April 17, 2009
10:00 a.m. – 2:00 p.m., Wenatchee Public Works Service Center

Participants: Jennifer Hayes, WDFW, Brian Cosentino, WDFW, John Thoren, IRIS, Ted Murray, Okanogan County Planning, Jay Kehne, NCW RC&D, Connie Krueger, City of Leavenworth, Susan Driver, City of Entiat, James White, Upper Columbia Salmon Recovery Board, Brian Frampton, City of Wenatchee, Greg Story, City of East Wenatchee, Chris Branch, City of Oroville, Nancy Warner, IRIS.

Purpose: To review the revised NCW COF map with the addition of zoning overlay, demonstrate the use of the data viewing tool, and provide some examples of how biodiversity can be incorporated into local planning.

Overview of NCW Biodiversity Council pilot project: Nancy reviewed the NCW Biodiversity Council pilot project goals and objectives noting that IRIS was invited to submit a proposal to the Council for the current pilot project based on results of the first one, the Healthy Lands Initiative in 2005-2007. One of the recommendations from the Healthy Lands Initiative was to form a regional council to complement that at the state level. Since the state Council is using the Conservation Opportunity Framework maps to guide investments on the ground, it makes sense to review those maps at a regional level and see what can be done to make them more accurate and useful to the planning community before forming the NCW Council. The planner's task force has been helping IRIS and the Washington Biodiversity Council meet this objective over the past nine months. This summer IRIS will be convening a steering committee to design the biodiversity council for our region that will build on the good work done to date with input from the planners task force.

Incorporating biodiversity into local planning: Jennifer Hayes, Technical Assistance Manager and GMA Coordinator for WDFW in Olympia and a member of the land use and outreach subcommittees for the Biodiversity Council, gave a presentation using examples from other Washington communities. The presentation is attached to these notes. The data used to generate the curves in the graph entitled "Species loss in developing landscape-moderated by conservation measures" comes from a guidance document on wildlife planning that WDFW will be releasing for public review this summer.

The idea of interviewing people from each of the communities included in Jennifer's presentation was raised. It was suggested that adding testimonials from the people involved in implementing the plans and measuring their success would add value to the overall approach.

NCW COF map review: Nancy referenced the first effort to localize the NCW COF map using land use code data Susan Driver and Jesse Langdon, previous GIS Analyst for

TNC, collected from Okanogan, Douglas and Chelan counties. (See crosswalked data sets attached to these notes). John Jacobsen, GIS Technician for WDFW in Olympia developed the new maps for group review showing the relationship between biodiversity values and local zoning. Brian Cosentino, GIS Analyst with WDFW in Olympia, then demonstrated the use of the data-viewing tool. While it is still being developed and won't be ready for "beta testing" until the end of May it does provide an overview of the data used to generate the relative values of biodiversity across the landscape.

Questions about the origin of the data used in the COF maps followed along with recommendations about how to refine the use and interpretation of the data. Several people noted the challenge in interpreting this technical information for more general audiences including elected officials. It was suggested that an executive user's guide to the COF maps be developed that includes information on the importance of biological diversity, a brief explanation of the data, and testimonials from citizens about how planning for the conservation of that diversity has enhanced their communities.

It was noted that the COF maps could be very useful at the beginning of comprehensive planning and zoning revisions. The group felt that the maps are too coarse for project level review but may provide a "heads up" to planners doing project review/SEPA to look into a given area further.

The capacity of local planning departments to effectively use the COF data and maps was also discussed. It is rare to have eastside planning staff who can use GIS so for the COF maps to be useful the data viewing tool needs to be easily accessed and used.

It was recommended that the question each map is being used to address be printed at the top, i.e., biodiversity and existing land use, biodiversity and zoning or potential land use. There seemed to be agreement that it is useful to have more than one map to view risk to biodiversity – more than one way to evaluate the risks of population growth and density. It was also noted that the land use codes from the assessor's offices are highly variable – probably best not to depend on that data as conclusive indicators of existing use. This is particularly true for agricultural land – there is an opportunity to work in cooperation with the Office of Farmland Protection to develop a consistent approach as to how agricultural land use is described in land use codes and in the COF maps. There was a question about how cropland was valued in the biodiversity assessments, i.e., whether crop land was uniformly ranked as low for biodiversity. It was suggested that it might be better to show it in the data report for each hexagon as is done with habitat types.

Discussion of data layers and access to the COF map data viewing tool followed. Brian suggested contacting TNC staff in Seattle to obtain release of the data for limited use as part of this pilot project. James offered that the UCSRB server could serve as a temporary host for the data and data viewing tool and that a folder could be set up for the planners task force to use in accessing the information. There is a need for a regional repository of the data and local experts to help local agencies and organizations access and use it – a GIS service center dedicated to NCW. Nancy will work with James, Brian and others in TNC on this.

Recommendations:

- Develop executive summary for NCW COF maps that includes information on the importance of biological diversity, an overview of the data sources & assumptions, and testimonials about the utility of incorporating information on biological diversity into community and regional planning. Incorporate examples from Jennifer’s presentation.
- Use executive summary in presentations to counties, cities, watershed planning units and conservation districts across NCW.
- Produce two map series (pdfs or jpegs) that show progression from COF from biodiversity values through risk levels based on two different questions— population growth and zoning. (WDFW)
- Refine viewer tool, obtain data release/security and convey to UCSRB server. Ideally, the tool needs to be interactive and responsive to different queries, e.g., what happens when you plug in “x” density versus “y”? We also need to be able to create reports for each Hex/HUC that explain “abundance percentage” etc.
- Get metadata for each column displayed on the data viewing tool. Folks want specifics about where the data is coming from and how to interpret it.
- Add a layer regarding crop land/farm diversity. This will help identify the interface between winter wheat and habitat values. Explain how crop land was treated in the hex/HUC.
- Need to adjust colors on the map matrix. The existing colors don’t match the logic behind what is being shown on the NCW COF maps.

Success Stories from Kate Stenberg

Many moons ago, I led a mapping exercise in Pima County, AZ – this is the county that Tucson is located in. This was far enough back in pre-history that we did not have GIS but rather were working with paper maps and overlays. We did a simple series of maps showing 1) the riparian corridors in the Tucson metropolitan area, 2) the riparian areas with intact native vegetation, and 3) the intact corridors with some level of connectivity and habitat value remaining. The visual impact of the change was interesting to us as academics.

The context in Tucson at that point in time was that three years previously there had been severe winter floods and the residents had approved a flood control bond measure that was about half implemented. The preferred flood control measure (which everyone had voted on and approved) was to harden the banks of the major river and stream systems and raise the bank edges (not quite levees but close). This was turning the major waterways (which are dry most of the year in Tucson) into something akin to the Los Angeles river or an aqueduct.

Our maps were informally shared with the county planners and they quickly captured the imagination of the region. The maps were labeled the “bunny map” and the power and simplicity of the visual representation of the loss of riparian connectivity did not require any explanation. The result was a complete change in policy and a redirection of the flood control funding. The remainder of the flood control program was directed to purchasing upper watershed properties to retain the riparian areas and functions in promoting infiltration and water retention. The benefit was that this was a more cost effective and long term solution to the issue of flooding and does not transfer the issue further downstream. As a follow up a small document outlining a conservation strategy that was suggested by the mapping results was produced.

I can bring a copy of the bunny map and strategy on Friday.

The Emerald Necklace

A second example is the habitat connectivity mapping that I directed for King County. During the development of a community plan for a subarea of King County, we used readily available information to identify a connected system of natural open spaces and parks linked with corridors of intact habitat. The proposal was to protect the network through a regulatory program. The draft maps were presented to the public at a series of community meetings culminating in the Council deliberations on the community plan and area zoning. The visual impact of the maps was such that people were able to quickly understand the concept and context. The development community dubbed the system “the emerald necklace.” While most developers were not generally supportive of regulatory programs, the power of the visual graphics was such that the concept was difficult to argue against. Unfortunately, the visual nature of the maps and the unimpeachability of computer generated information probably also limited meaningful conversation about implementation options. In spite of some limitations in the public debate, the habitat network maps were very useful to planners in the County and the Cities within the County, because the inputs and the decision tree used in the

development of the maps was very transparent. In addition, the scale of the information was meaningful at the parcel level which made them useful in zoning and permitting. The map was expanded to include the entire County during the first GMA comp plan update. They became a powerful criterion in a variety of non-regulatory programs such as the Public Benefit Rating System, setting priorities for conservation acquisitions and easements, and habitat restoration/enhancement projects, grant funding, and transfer of development rights programs.

I can bring a copy of the text chapter that was written on this method and the policies and maps that were adopted by the County Council.

Lessons:

Maps are visual and people make assumptions about their meaning based on the colors and patterns depicted – often without questioning about the validity of the underlying information. Computer generated maps can combine large amounts of information and produce results that appear meaningful. However, they can also result in final products that “add” the various layers in ways that do not make sense. Since the final product is so powerful, it is incumbent on the map producers to be completely transparent in their methodology. It is imperative that the methodology and the process used to produce the maps be completely understood by the end users – even before the final maps are presented to those end users.

Map scale is also a critical consideration. Local level planners need information that is meaningful at the parcel level. Larger, more generalized scales are useful for larger landscape level planning efforts. The state level maps that have been generated could be used for larger scale policy direction such as setting urban growth boundaries or prioritizing the general application of non-regulatory tools. The specific application would still need to be paired with site evaluations and so may not result in efficiencies as great as it might appear should be possible.

Finally, the maps should be presented with a variety of possible applications suggested. They should not be only presented as “conservation” maps – and I think the Biodiversity Council has been very aware of that issue. Addressing this concern is partly also why I continue to emphasize the need for all users to understand the underlying inputs to the maps before being presented with the final maps. Final maps seem so self evident that they can limit the conversation before it gets started.

NCW Biodiversity Council Pilot Project
IRIS Executive Committee Work Session
April 24, 2009; 9 – 11 a.m.

Participants: Julie Morgan, UCSRB, James White, UCSRB, Chuck Warner, TNC, Sonia Hall, TNC, Liz Johnson, TNC, David St. George, TNC, Lisa Pelly, IRIS, Bob Bugert, IRIS, John Thoren, IRIS, Rufus Woods, IRIS, Cheryl Dawes, IRIS, Ben Field, IRIS, Nancy Warner, IRIS

Nancy reviewed some of the background related to the current Biodiversity Council pilot project:

- 1996 TNC launches Columbia Plateau Ecoregional Assessment, R&D phase of developing methods for prioritizing biodiversity at coarse scale
- 1997 TNC uses Columbia Plateau Ecoregional Assessment to identify priority shrub steppe habitat; makes first acquisition in Beezley Hills
- 2002 Biodiversity Conservation Act; WDFW signs MOU with TNC enabling them to use ERA process to meet federal legislation requiring them to develop biodiversity priorities
- 2003 Biodiversity Task Force chartered by Governor Locke
- 2004 Governor creates Washington Biodiversity Council
- 2005 IRIS launches NCW pilot project, Healthy Lands Initiative
- 2007 Washington Biodiversity Conservation Strategy released
- 2008 IRIS launches NCW Biodiversity Council pilot project

IRIS received a \$50,000 grant from the Washington Biodiversity Council in late summer 2008 to complete three objectives within a year (contract to be extended to fall, 2009):

- #1 Work with task force of local planners to localize and strengthen the Conservation Opportunity Framework map for NCW
- #2 Convene a regional Biodiversity Council to use the localized version of the COF map to guide at least one decision, i.e., prioritize Farm Bill program such as EQIP or WHIP
- #3 Develop photo monitoring trail program as one element to be included in the statewide biodiversity scorecard

Nancy introduced the localized Conservation Opportunity Framework maps they have been refining with the help of local planners. The maps are being used as references for

data relevant to specific sites where *Witnessing Change* photo-monitoring trails are being established including McCartney Creek Meadow in Moses Coulee, Sinlahekin State Wildlife Area in the Okanogan Valley, and Barn Beach Reserve in Leavenworth.

Ben Field demonstrated the website they have developed for the pilot project. Discussion of different applications for the program from public to private landowners followed. They will be presenting it at the Society for Ecological Restoration conference in May. Bob also suggested demonstrating it to the Washington Association of Land Trusts and the Land Trust Alliance. The *Witnessing Change* portion of the IRIS website will be linked soon to the Landscape website, a partnership between National Geographic and Nature Serve. The Nature of NCW will also be posted on this site with a link to IRIS.

Since the Conservation Opportunity Framework maps are core to the Washington Biodiversity Conservation Strategy, the development of a localized version(s) of the map has necessarily preceded the formation of a regional “council” that would use it to guide biodiversity priorities in NCW. The core functions the state Council has described for a permanent leadership entity include:

1. Lead progress toward achieving the goals of the Biodiversity Conservation Strategy.
2. Conduct outreach and education on biodiversity and its importance to our quality of life.
3. Convene, coordinate, and advance collaboration on biodiversity conservation.
4. Promote efficiencies and develop integrated approaches to biodiversity conservation.
5. Measure and report progress on the status of our biodiversity resources.
6. Ensure accountability for Strategy implementation.

Discussion of what the NCW Biodiversity Council might look like and how it might function resulted in the following points:

Nancy explained that the general purpose of the Council will be to work in partnership with the state Council to implement the 30-year Biodiversity Conservation Strategy. Within that framework there is a lot of room for setting regional priorities and strategies. The COF map is designed to help with that work as is/will be the Statewide Biodiversity Scorecard that we hope will include *Witnessing Change*.

In terms of composition, Julie pointed out that having specific objectives for the NCW Council will help determine which individuals we will want to invite to participate. Lisa suggested that those objectives could be developed by the steering committee that IRIS will convene.

There was agreement with Lisa’s suggestion that the people on the Council will generally be more important than the organizations they represent, i.e., people who do represent an organization will need to think outside their own interests when serving as part of a regional council.

Chuck noted that where specific representatives are invited, having the relationship between this group and the state council would likely be easier for some people to get approval to participate, i.e., a regional representative from WDFW or DOT who would be critical for conversations about connectivity.

James suggested that the Council be designed around ecosystem functions rather than existing groups and organizations to ensure integration. Julie suggested that we think of the council as a coalition of representatives of various cross sections or clusters of the community, e.g., UCSRB could represent the groups involved in aquatic biodiversity conservation, planners could be representatives of urban lands, land trusts and conservation districts of rural lands and WDFW, USFS and others of terrestrial lands.

Bob made the point that IRIS is already designed to meet the core functions of a biodiversity council. So expanding the board and convening a larger group that meets quarterly under the banner of IRIS could serve as the structure we need to collaborate and coordinate about biodiversity issues at various scales. Lisa liked the idea of the actual council being larger than the 23-person statewide council. Bob suggested that if the IRIS meetings were held in Wenatchee instead of Chelan we would get better participation. Nancy agreed that that would be good sometimes; other times the meeting location could rotate around the region.

The meeting adjourned with more individual and small group discussions to follow prior to convening a steering committee.

NCW Biodiversity Council Pilot Project Meeting Notes
May 19, 2009 10:00 a.m. – 12:00 p.m.
The Nature Conservancy Office, 6 Yakima, Wenatchee

Participants: (in Wenatchee) Randy Kelly, NRCS, Craig Nelson, Okanogan Conservation District, Ben Field, IRIS, Chuck Warner, TNC, Liz Johnson, TNC, James White, UCSRB, Nancy Warner, IRIS; (via phone) John Pierce, WDFW Olympia, Brian Cosentino, WDFW Olympia, Jennifer Hayes, WDFW Olympia, Elizabeth Roderick, WDFW Olympia, Don Larsen, WDFW Spokane.

Meeting Purpose: To explore how Conservation Opportunity Framework maps can be used in the Local Working Group meetings that NRCS and the conservation districts are convening on May 21 and June 9 to prioritize use of EQIP and WHIP incentive programs in North Central Washington.

Overview: Nancy explained the purpose of the NCW Biodiversity Council pilot project and their three objectives: 1) developing the *Witnessing Change* photo-monitoring trail program as one element of the statewide biodiversity scorecard, 2) working with planners to localize the risk layer to the Conservation Opportunity Framework map for NCW, and 3) convening a regional biodiversity council that will guide implementation of the Washington Biodiversity Conservation Strategy including

- Linking citizens with scientists to monitor biodiversity and enhance our knowledge
- Enhance voluntary incentives for private landowners
- Adopt a landscape approach to focus investments on the ground

Witnessing Change: Ben Field demonstrated the *Witnessing Change* website and talked about its use in helping citizens learn about the actions managers are taking to improve the health of the lands they manage through the use of photo-monitoring trails at three sites in NCW: Barn Beach Reserve in Chelan County, Sinlahekin State Wildlife Area in Okanogan County, and McCartney Creek Preserve in Douglas County. While internet access inhibited part of the demonstration, Ben was able to show the types of information citizens can access on the website and how volunteer trail stewards and landowners can work together to manage the information and photos relative to each site. He also showed how each trail location includes information from the Conservation Opportunity Framework maps, i.e., currently displayed as a list of biodiversity values associated with each trail site. (See preview site at <http://witnessingchange.org/home.html>)

Applications: The website, www.witnessingchange.org is still under development but will go live on the IRIS website (www.irisncw.org) with links to participating landowners early this summer once trail markers are in place. Nancy said they intend to add as

many as 10 more trails before the fall including two more on TNC properties at Barker Mountain in Okanogan County and Homestead Valley at the McCartney Creek Preserve in Douglas County. They also intend to add a feature for each trail that engages people in looking at the biodiversity of each site from three perspectives: ecosystem, natural community and species (3-point view). Once the indicators for the statewide biodiversity scorecard have been determined, *Witnessing Change* trail users can be invited to collect data on the occurrence or condition of those indicators as well, e.g., yellow warblers and riparian areas, damsel flies and aquatic habitats, etc.

Craig asked about connections between *Witnessing Change* and the schools. Nancy said that there is another group of photo monitoring trails they have been developing with TNC, BLM, Woodland Park Zoo, Foster Creek Conservation District and some NCW schools. Those sites will go up on another portion of the website, i.e., *Students Witnessing Change*. Nancy also pointed out the connections IRIS is building between *Witnessing Change* and their community-based storytelling program about stewardship successes, *Gathering Our Voice*. One example of this potential will be seen in the project IRIS is currently working on with Okanogan Conservation District where they are gathering stories from private landowners about how the OCD has contributed to their on-the-ground success over the years.

The group discussed additional applications of the *Witnessing Change* website. Nancy explained that it has been developed to provide a service to landowners who want to engage the visiting public in their sites. They've also already seen interest in developing a private, password-protected portion of the website that would serve as a place where private landowners could store photo-monitoring data. Such data would be useful to NRCS, the conservation districts and the landowners in monitoring project and program successes from EQIP and WHIP to CRP and the Conservation Securities Program.

Conservation Opportunity Framework Map: Brian guided the group through a series of slides he put together as a pdf document (see attachment) to illustrate how the data-viewing tool can be used to highlight the biodiversity values of specific places on the ground. There were questions about the thresholds that make some places higher value than others. Brian explained that the data used to generate the map came from a combination of available information for species and plant community types that were analyzed, via the modeling program Marxan, to determine the irreplaceability value of a given area.

Everyone agreed that the process of using available information on biodiversity to develop a ranking system, i.e., the irreplaceability value of biodiversity across landscapes, is difficult for average citizens to grasp. People can relate to on-the-ground observations, such as those made through *Witnessing Change*, but going from that level to a whole region is difficult when you were not involved in developing the system and do not have expertise in GIS analysis.

The group discussed two approaches for making this bridge and simplifying the story. Jennifer suggested that we followup on the suggestion from the last planners task force meeting and develop an Executive Summary or User's Guide to the NCW Conservation Opportunity Framework map. The pdf Brian put together can serve as the basis for that document. We will not have this available by the Local Working Group meeting but we will start the process of developing it now and have it ready by the end of the summer.

James noted that we can explain how relative biodiversity values are ranked by using a more familiar and everyday example of an optimization scheme, e.g., driving to the grocery store on Apple Blossom weekend in Wenatchee(!). Nancy will work with James to put together a brief explanation using this type of analogy for introducing the biodiversity values map at the Local Working Group meeting in June.

Applications: Randy noted that the relative biodiversity values could be used as one ranking criteria for EQIP and particularly WHIP applications. It was suggested that the land ownership overlay of the biodiversity values map would help focus the high priority sites. Randy said that since NRCS-funded incentive programs cannot be applied to state or federal lands such an overlay would not be necessary, i.e., they will only evaluate applications from private landowners. Craig suggested that the biodiversity values map with the risk overlay developed in cooperation with local planners, i.e., the NCW Conservation Opportunity Framework map, would be really useful to the conservation districts who take a proactive approach to program development. So both maps, with the question they can be used to answer printed at the top, will be useful additions to the NCW conservation toolbox and potentially other NRCS/RC&D regions across the state.

Next Steps:

- Brian will post digital copies of the COF map series in the IRIS folder of the ftp site James set up; paper copies of this series will be mailed to IRIS for use in the June 9 Local Work Group meeting on June 9 in Chelan.
- James will attend the June 9 LWG meeting and demonstrate the use of the data-viewing tool Brian will provide.
- Nancy will attend the May 21 LWG meeting and work with Randy, Craig, James and Ben to design the agenda for the June 9 meeting, hopefully allowing 45 – 60 minutes for the *Witnessing Change*, COF map presentation
- Jennifer will work with Elizabeth, Lynn, Nancy and others to develop the Executive Summary building on Brian's pdf
- Nancy will work with James to develop a "cartoon" illustrating how the irreplaceability values are analogous to other, more familiar optimization schemes for use in the June 9 meeting

Initiative for Rural Innovation & Stewardship (IRIS)

Connecting People, Facilitating Change

August 21, 2009

Addressee

Dear ---

We're looking for a group of dedicated people like you who value our rural lifestyle and rich heritage and who understand that maintaining a healthy environment is necessary to the long-term economic health of North Central Washington.

The Initiative for Rural Innovation and Stewardship (IRIS) is devoted to conserving the natural diversity that provides the foundation for our land-based economy and a desirable place to live, recreate, and establish new enterprises. We believe that sustaining the rich variety of life of our shrub steppe, forests, freshwater and alpine habitats can keep our communities healthy in the face of change. We also feel confident that we can sustain that natural heritage by working as a community to share information, coordinate actions, and create new and effective strategies that will help us adapt to those changes.

In that spirit, we invite you to join IRIS and the Washington Biodiversity Council as we explore how to integrate the Washington Biodiversity Conservation Strategy into our regional work on **Wednesday, September 9 from 1:00 – 4:00 p.m. at the Chelan Fire Station**. We have identified you, by virtue of your interest, engagement, and commitment to join other North Central Washington leaders to participate in this meeting and help shape the future of IRIS.

The primary purpose of the September 9 meeting is to learn more about the Washington Biodiversity Council and the work we have done in cooperation with them on the 2005-2007 Healthy Lands Initiative and the current pilot project focused on the Biodiversity Conservation Strategy. We will also discuss priority actions we would like to take as a region to move the statewide goals forward: 1) guiding investments in our region, 2) improving conservation incentives for private landowners, and 3) engaging citizens and scientists in inventorying and monitoring biodiversity.

We appreciate the knowledge and perspective you will bring to IRIS and thank you for considering this request. Please let us know if you will be able to join us by responding to this e-mail or calling Nancy at 509-881-1812. Background information on the Council and the pilot project work IRIS has conducted is attached here for your information.

Sincerely,

Nancy Warner
IRIS Coordinator

John Thoren
IRIS Chair

INITIATIVE FOR RURAL INNOVATION AND STEWARDSHIP
QUARTERLY MEETING AGENDA
September 9, 2009 1:00 – 4:00 p.m.
Chelan Fire Hall
Detailed Draft 8-18-09

Welcome and introductions

Review and adopt previous meeting notes

Review and adopt meeting agenda

Overview of Washington Biodiversity Council – Lynn Helbrecht, Executive Coordinator, Washington Biodiversity Council

--- Mission, core functions, structure and work plan, i.e., implementing the 30-year strategy

Overview of IRIS - Nancy Warner, IRIS Coordinator

--- Mission, core programs, structure and work plan, i.e., implementing the strategic plan

History of IRIS work with Washington Biodiversity Council

- Healthy Lands Initiative
Leadership, results and recommendations
- NCW Biodiversity Council
Leadership, results and steering committee recommendations

Purpose of NCW Biodiversity Council

- Collaborating to implement strategy at capacity-appropriate scale
- Comparison of state Council workplan and existing IRIS workplan; what are the gaps? Which of those gaps do we want to address in the next year? How shall we collaborate to accomplish the work?

Next Steps

- Working with State Council and October 6-7 retreat
- Form issues/strategy groups to bring recommendations back to IRIS.

New Business

- NCW Success Summit, November 18 in Pateros
- NCW Regional Food System Assessment

**Initiative for Rural Innovation & Stewardship (IRIS)
Quarterly Meeting
September 9, 2009
Chelan Fire Hall
1 – 4 pm**

Present

Lynn Helbrecht, Washington Biodiversity Council
Mary Hunt, Douglas County
Samantha Bartling, NCW RC&D
Bob Bugert, Chelan Douglas Land Trust
Kathleen Deason, Foster Creek Conservation District
John Thoren, IRIS
Susan Driver, City of Entiat
Jenae Miller, City of Chelan
Chris Branch, City of Oroville
Jay Kehne, Conservation Northwest
Bob Steele, Washington Department of Fish & Wildlife
Chuck Warner, The Nature Conservancy
Todd Chaudry, The Nature Conservancy
Karen Cooper Chaudry, Biologist
Rich Watson, NCW Business Loan Fund
Benjamin Field, IRIS
Nancy Warner, IRIS
Cheryl Dawes, IRIS

Welcome and introductions – John Thoren

Previous meeting notes approved – John Thoren

Meeting agenda adopted – Nancy Warner

- Overview of Washington Biodiversity Council (WBC) – Lynn Helbrecht
- Overview of IRIS – Nancy Warner
- Overview of IRIS pilot projects with WBC to date
- Discussion of how a NCW Biodiversity Council can work together to implement the Washington Biodiversity Strategy
- Meeting Outcomes
 - ◆ How we will move forward in working as regional community in implementing biodiversity strategy
 - ◆ Leave with a couple of specific issues that the NCW group can take on

Nancy pointed out that we are designing work to complement work of IRIS, the NCW RC&D and NCW EDD, not to duplicate efforts.

Lynn Helbrecht provided an overview of biodiversity and the Washington Biodiversity Council. The definition of biodiversity is the full range of life in all its forms, includes species,

habitats, interactions between species, and the interactions between species and their habitats. Understanding biodiversity is trying to get at the way ecological processes work and the functions and processes that are needed to make them stable systems. Why should we care and why use word biodiversity? One reason is the focus on the notion of resilience, which is becoming important as we think of profound changes that might be coming our way with climate change. Stable systems give us more options in a changing world. We don't always know what relationship is important to an ecosystem functioning or which species is critical, but we do know the economic costs that we have to bear when one species becomes listed as endangered and all that entails, or when a new non-native species becomes invasive.

The Council is a 24-member public/private partnership which was formed in 2002 by Governor Locke's Executive Order and re-chartered in 2008 by Governor Gregoire. Council was formed to provide a comprehensive integrated approach in terms of how we think about conservation and set priorities from the statewide perspective because so many agencies and entities have a piece of the puzzle. Council was organized around notion of increasing voluntary approaches and to engage landowners in helping to make decisions. The Council has tried to honor that and our private landowner representatives keep us to that. It is not about more regulation.

The Council's strategy for biodiversity conservation was published in 2007. This large document includes 60 recommendations in different areas that combine new and existing ideas. After publication of the large strategy, the Council was re-chartered to push forward on some high-level actions and has focused on how to get a more coordinated approach to investments on lands with the most the important priorities.

Another area of focus has been a whole suite of recommendations around how to improve incentives for private landowners and how to move the notion of conservation markets forward. Engaging citizens and scientists in working together to enhance education and conduct more robust science has also been an area of focus. We've recently seen that the Council, which lacks the turf issues of some agencies, can serve to bridge agency conversations and help coordinate efforts.

One of the tools the Council developed is the Conservation Opportunity Framework (COF) map. This tool was the seed for some of the efforts of the IRIS NCW regional pilot project. The COF map takes a landscape/ecoregion approach to conservation. The state of Washington includes parts of seven big ecoregions, which are large areas of land with similar geology, climate and vegetation. Few other states have as much ecoregional diversity as Washington. One layer of the COF map combines biodiversity data on important species, habitats and ecological communities of the region to find out what are the most important places to conserve biodiversity for that region—biodiversity significance. Partners in providing the data and expert opinion that underlie the biodiversity significance layer included the Department of Natural Resources, the Department Fish and Wildlife, The Nature Conservancy, and many regional experts. Areas with the most important biodiversity, rated from low to high, were determined and a coarse risk filter was applied to provide some understanding of areas most urgent to address. The risk layer is based on projected human population growth to 2040, by density, and indicates which areas are going to be most subject to development pressure. The overlay of the biodiversity significance layer and the risk layer is called the Conservation Opportunity Framework (COF) map. The COF

maps cover landscape levels with large geographies so they are not the place to stop the search of what is most important biodiversity, but instead a place to start. The COF maps are not intended to trump local data or values, they are designed to be used in concert with local efforts. It is important on a local level to understand what creates the ranking on COF maps. The ranking could indicate that local biodiversity is unknown or it could indicate that local biodiversity is in need of restoration. The tool is designed to be used in priority setting and to inform grants together with other local information.

The Council has funded some early action projects, including development of a biodiversity scorecard to keep track of how biodiversity conservation efforts are proceeding over the years and to be able to roughly relate progress to the investment. Policymakers want to know if efforts are making a difference. The Council also has provided some funds for connecting with stakeholders in the ongoing effort to develop a statewide connectivity map that identifies important corridors for wildlife.

The Council has also funded the NCW regional pilot with IRIS which has taken elements of the large statewide strategy and recommendations and brought them to the ground in an effort to understand what it takes to make the strategy work in a defined region. The NCW pilot project looked at the COF maps to see if they work, if they provide enough information and what it takes to make the maps useful. The pilot also is exploring the notion of having a regional council that would parallel the statewide Council and perform some of the same collaboration, network building, more cohesive approaches between agencies, more connection between agencies and landowner interests or whatever it is that the group decides is the most valuable to move forward biodiversity conservation efforts.

The NCW pilot took the COF maps and convened planners to try to use them. The results of that effort showed that the threat layer was not that useful to their work as land use planners. What was really useful was comprehensive plan zoning relationships—how the significance layer relates to projected development and growth. By looking at different data layers a different map emerges that may be more applied and useful. Based on the NCW pilot work the Council is going to develop a website that can be more of a toolbox for planners.

In relation to another aspect of the NCW pilot—brainstorming how a regional presence could speak to state issues related to conservation—ideas include the contribution that a regional committee might make to statewide efforts such as the Arid Lands Initiative. Regional groups have power to attract dollars to the area for conservation and landowner incentives. By combining several committees to one overarching group, a regional council could serve several functions and reduce burnout of individual participants. A regional forum could foster agency collaboration and data sharing as well as provide more leverage for regional initiatives.

The floor was opened for questions to Lynn.

Bob Bugert inquired about the Pierce County pilot project funded by the Council. Lynn related that the Pierce County project is continuing and that they have a mapping effort that differs from the NCW pilot project. They have a biodiversity network which has developed a map that indicates corridors in their county. Those corridors were adopted in the county's open space plan

and the network has been working with landowners to try to conserve different parts of the corridors throughout the county. They also do “bio-blitzes” that convene scientists and citizens and work for a 24-hour period to see what biodiversity is there. They have satellite data to suggest that certain species of plants and animals are there and they go out as teams to collect information—set traps at night, bird watch at day, have botanists look at plant species, etc.

Mary Hunt raised the issue of landowner fears that arise because of organizations such as Futurewise that bring lawsuits against local governments that prevent developers from doing some of the things they want to do in correctly designated areas. She asked if classification of areas of land would create a tool that could be used against the landowner. Lynn explained that the Council had considered this carefully and was swayed to continue the maps because the information exists, agencies have the information. Part of what the maps do is put the information together and make it public so everyone has access to it. The maps are not intended for use in a regulatory context, rather than to foster incentives.

Jay Kehne pointed out that maps could be helpful by providing insight to back up critical area designations and enable purchase of conservation easements that will allow landowners to continue to farm while they receive payment for the sale of their development rights. That could be a trade off which addresses some landowner fears.

Bob Steele noted that similar fears exist regarding fisheries. A lot of people don't want fish to pass through their land because they feel that it may restrict their land use. He said WDFW tries to work cooperatively with people and in some cases fish passage has increased the value of property in individual sales.

John Thoren brought up the conversation that came up when discussing the NCW pilot project. If the public wants to do something specific with the land, the public needs to pay for it.

Nancy Warner noted that the strategy is an effort to make the data transparent as possible and still protect the rare things. It is an effort to democratize biodiversity conservation efforts. It pairs biodiversity conservation with markets and incentives and increases awareness of the need to expand them.

Lynn brought up the factsheet the Council has published and other efforts to publicize incentives and how to make conservation pay.

Chuck Warner mentioned a factor that is often overlooked – the ability to avoid costs that developers might run into without the biodiversity tools. They might help developers choose areas where they are less likely to run into trouble and to avoid costs and delays. Individual landowners might look at the map, see that they have exceptional areas, and begin to think about how they might trade for properties that have less biological importance and greater development value. The map can be seen as a financial tool.

Mary Hunt mentioned the Conservation Reserve Program (CRP), which has given farmers some incentive money to lay aside their land and plant it with certain species so that it helps the wildlife. When CRP is talked about she says it is often referred to as a welfare program for

farmers. All of the good things that the CRP does for the land and community don't come out. For example, all the sediment that CRP has kept out of the Columbia River hasn't even been talked about. It seems that the landowner is always chided for accepting this money. Because of the way CRP is talked about, it is getting smaller and possibly could go away. She said she hopes that things like this tool can bring such programs back.

Nancy Warner pointed out the need to build a constituency. Agriculture is such a small percentage of the voice.

Nancy Warner presented an overview of IRIS and the pilot projects with the Washington Biodiversity Council. The mission of IRIS is to foster sustainable rural communities in North Central Washington, which includes the maintenance of biodiversity. IRIS is concerned with natural systems as well as local food systems. IRIS supports all of that and looks for ways to achieve those goals. We think a sustainable condition in North Central Washington stems from stewardship—economic, community, and environmental stewardship. IRIS spends a lot of time looking around for success stories and sharing those success stories. As an example, take Douglas County. If we show connected shrub steppe habitat across Douglas County that supports sage grouse and wheat farmers at the same time, that's a success. That's to be touted – something to be really proud of. We think that we can build on what we do well. We are also into building replicable models that can be useful to other regions of the state and nation.

IRIS has an uncomplicated structure and IRIS is intended to be small. We have an executive committee (which will be a board when IRIS obtains its own non-profit status) and three part-time staff right now: Ben, Cheryl and I. IRIS also has committees for various projects. For example, planners—Susan Driver, Chris Branch, and others—worked with us as a task force for several months on this project.

IRIS has three program areas: Nature of Place, which celebrates North Central Washington from a natural history standpoint and a cultural history standpoint; Regional Food Systems, which recently released the assessment of NCW regional food systems, a product that we hope to build on as we go forward trying to expand and enhance our food system; and Healthy Lands, which encompasses incentive programs and habitat farming, the biodiversity council, and the stewardship cooperative—something IRIS has been exploring with The Nature Conservancy and Chelan Douglas Land Trust to see how staff, resources and training could be shared between landowners.

IRIS was fortunate to be one of the early pilot projects and to work with the Biodiversity Council for 18 months in 2005-2007. The goal on the first pilot project was to take North Central Washington as a region and see how to enhance biodiversity while pursuing profitable agricultural enterprises. IRIS's sister pilot project during the first round was the Pierce County Biodiversity Alliance that looked at a small scale, intense way at the neighborhood with bio-blitzes while IRIS looked more extensively across North Central Washington. It was an interesting pairing and resulted in some good parallels. Partners in the first IRIS pilot project were IRIS, the RC&D, The Nature Conservancy and three of the four conservation districts in North Central Washington. The project had five objectives and a limited amount of funding. One of the products was a 12-minute layperson's video overview of what is so special about North

Central Washington. The project took a look at the biodiversity to make it uncomplicated and help people understand the unique aspects of our place. Kathleen Deason put together a tool (a Power Point presentation and handout) looking at existing incentive programs and gaps in agricultural operations in shrub steppe and freshwater—what we already have so we could identify what we still need. In addition, IRIS held focus groups and small group conversations around North Central Washington that summer to identify other ways to integrate biodiversity conservation with agriculture. We rolled up our findings in a forum in Chelan about a year and a half ago and came up with some really good ideas. Also in that first round we worked to further the idea of habitat farming, an incentive program that pays tree fruit growers to grow habitat instead of tree fruit in high priority salmon recovery areas. We also did a lot of work with ranchers in the Methow and in Douglas County to look at the feasibility of using an incentive program called grassbanking to further shrub steppe conservation and the viability of ranching. Our recommendations were to establish a regional biodiversity council, develop a regional website and support a regional learning network.

In the second pilot project in North Central Washington, IRIS has been building on the earlier work and helping the Council test some early actions. This has involved working with the COF maps, developing the photo monitoring trail network, and organizing this council today. We've learned a lot and there has been a lot of willingness of this community to participate in all this work. IRIS has been the lead convener, but this work is regional work that has involved a lot of people.

An example of the good questions that were raised during the work with planners on the COF maps was: How do we optimize conservation of the full diversity of life in North Central Washington? There is a technical answer to that question which is called the irreplaceability index which shows in the rankings on the maps. To provide a non-technical answer, James White, one of the planners who worked with IRIS, put together a video explaining the concept of optimization.

In addition to what IRIS learned with the planners about the COF maps, we discovered that it is good to start with a place on the ground that people can identify with and then take them up to the higher map level. So IRIS has developed the photo monitoring program called *Witnessing Change*, which has been piloted with WDFW lands in Sinlahekin, Nature Conservancy lands in Moses Coulee, and Barn Beach Reserve lands in Chelan County (Leavenworth). Visitors to these places can walk a trail with designated photo points, take pictures, and compare what they see on their visit to what people have seen before. This will be very powerful 10 years from now for places like Sinlahekin that are doing a lot of restoration work and Moses Coulee where there has been a lot of restoration work going on for the last nearly 10 years.

Ben Field demonstrated the *Witnessing Change* website www.witnessingchange.org that provides background information about each of the photo monitoring trails and a location for citizens to upload the photos they have taken with their digital cameras after walking the trail. Ben also showed photos of the post prototype, which is a sturdy square post with a flat arrow shaped surface at the top that points in the direction of the witness post. The arrow serves as a surface on which to rest the camera and assuring that all photos are taken in the same direction from the same height. Ben pointed out that for a citizen, a map based on optimizations like the

COF map is difficult to understand. It is not immediately evident where the data come from, why they matter, and what should be done with them. The photo monitoring trails provide a complement because at each site there is a set of specific and intentional management objectives and activities. All of the data that build the optimization is based on some similar sorts of on-the-ground work. So *Witnessing Change* helps build a holistic picture for a member of the public of what is going on and how it all fits together.

Nancy noted that she and Ben had presented the *Witnessing Change* demo in June at the North Central Washington Local Working Group meeting organized by Randy Kelly and Craig Nelson. The discussion there had involved the application of *Witnessing Change* on private lands. If landowners have a WHIP contract or a conservation stewardship program grant, which calls for monitoring, *Witnessing Change* could provide an affordable way to do that monitoring. Later this month, IRIS is also talking with State Parks about doing some *Witnessing Change* trails on some of their lands because they want to engage the visiting public in helping them to meet their land management objectives.

The Biodiversity Council is meeting at Barn Beach Reserve on October 6 and IRIS will be presenting the final recommendations from the pilot project and demonstrating *Witnessing Change* uploading photos on the website.

Bob Steele asked about the cost and long-term durability. Nancy reported that the cost for materials is about \$32 per post. The post is a seven foot length of pipe that is buried to a four foot height above ground. It is planted in Redi-Mix and should be pretty durable.

John Thoren pointed out that the photo monitoring protocol is a well-established scientific method for monitoring landscapes.

Chuck Warner commented that the Forest Service was responsible for refining the technology and Fred Hall published a good technical manual on how to do it. The reason The Nature Conservancy is so interested in this process is because if you follow the Forest Service's recommendations which are very technical and very precise even though it is just photography, it becomes very expensive and you can only afford to do it every five or ten years. Whereas by engaging interested citizens you are able to replace that technical, precise imagery by volumes of data. You are doing the monitoring for next to no money after the initial investment of setting up the website and the posts, and it builds a constituency to support the projects. It also makes sure that you can't hide any good things you may be doing as well as any warts you may be showing. The Nature Conservancy really feels that it is important to show both aspects, we don't want to hide anything.

Lynn inquired how the Forest Service uses the photo monitoring tool.

Bob Bugert explained that the Forest Service uses the photo monitoring technique to assess regeneration after fire.

Nancy described work she had done one summer with a Forest Service hydrologist in Colorado in which they took photo points at every stream gaging station. It is a common technique, usually

done by seasonal employees. In her experience, the photos were filed away. The difference with *Witnessing Change* is that it is an organizing tool that enables visitors to be able to engage in telling the story of the place. We are proposing that this be a platform for the statewide biodiversity scorecard and be replicated all over the state. Once you have the photo points selected based on the landowner's objectives you could do all other kinds of monitoring that reference back to those points. You might do bird counts or take water samples based on those points. You could monitor dragonflies at a certain time of year when that is a meaningful indicator.

Bob Bugert noted that the Chelan Douglas Land Trust is interested in *Witnessing Change* as a tool for its holdings for all the reasons that Chuck mentioned. If the Land Trust does it, they would pair it with intensive monitoring of select sites. One of the challenges is how to finance the initial start-up costs with a significant number of parcels. He suggested teaming together as a region to seek funding for a variety of trails throughout the region.

Nancy explained that the next step for IRIS is to develop another ten trails to really figure out the costs of maintaining the program. Having an accurate picture of the costs would provide solid footing for a larger grant proposal. Regional photo monitoring is also the type of project that a regional biodiversity council could take on. IRIS has been talking with a steering committee for the past several months to figure out how to organize a group to implement Biodiversity Council conservation strategy in North Central Washington. The steering committee concluded that the strategy should be integrated into the work of IRIS since it overlaps already with so many things that IRIS is doing. The recommendations for how to structure the State Biodiversity Council work going forward include: conduct outreach about biodiversity, advance collaboration, develop integrated approaches, measure progress, and assure accountability. IRIS is building capacity to catalyze change. IRIS is developing integrated approaches to biodiversity conservation. IRIS is doing outreach about biodiversity and, through *Witnessing Change*, IRIS is measuring progress in some way. IRIS really doesn't have the means to assure accountability but by bringing partners together we can get things done.

The meeting turned to discussion about how to structure the biodiversity council work in North Central Washington. Nancy pointed out that this structure may be under the wing of IRIS or other options. She mentioned three items for consideration that are of interest to IRIS: expanding the *Witnessing Change* Network, establishing a NCW GIS cooperative with partners, assessing the interaction between the regional food system and conservation of biodiversity.

Nancy asked for ideas from the assembled group about how to structure an informal collaborative effort and if there are a couple of issues to on which to focus as a starter.

Kathleen Deason noted that many groups are doing many different things. For example, the group doing watershed planning for Douglas County has collected data that could inform a regional strategy and perhaps data informing the freshwater biodiversity COF map could provide information to the watershed planning group to help them set priorities. So some larger group might have to wrap up some of the more local efforts.

Lynn suggested that it might be useful before discussing structure to identify what value a biodiversity group might have, how could such a group help the region.

John Thoren commented that a huge amount of work that is beneficial to everyone is occurring but it is going on in silos and few know about it. He advocated bringing together some sort of forum that would help break down the silos.

Jenae Miller pointed out that as a busy city council member it becomes burdensome to attend so many meetings to gain information. She suggested integrating all the information on one website that is linked to each city, county, and chamber website so that a developer or anyone else would have a starting point for making an informed decision. Ben Field suggested including some sort of a diagram of organizations and entities that are involved.

Chris Branch brought up the idea of an ongoing high school senior project involving *Witnessing Change*. Often seniors spend a lot of time trying to figure out what their projects are going to be. If there were an established rolling project, a group of seniors could choose that, revisit the history of a site and study biodiversity.

Chris also mentioned the value of connecting a comprehensive plan for a county and a watershed plan with direction in terms of biodiversity priorities.

Jay Kehne noted that in thinking of models, he thinks of Canada where they have set up two boards. One is a water control board which is the policymakers, the other is the water stewardship board which is the scientific folks. They meet separately but the water stewardship board provides information to the policy board so that it can make decisions. In trying to envision a volunteer biodiversity council that has enough power to make something happen you may be creating an organization that already exists, whether it is EDD or RC&D. He suggested a need for making a decision about whether the group's goal is to make policy changes or to inform the general public. He also questioned whether the focus would be agricultural lands, public lands, or both. Because there are different players (conservation districts for ag lands and Forest Service or DFWF for public lands) it would be challenging to draw everyone together.

Nancy pointed out that the consensus of the steering committee was that the regional council should be an informal learning network to inform policy but not to drive it. And because we don't really get together to compare information that often, what we're talking about is getting together as a region in a way that's meaningful so that people want to come because they get something out of it. If we didn't have a council sanctioned by the governor, if it was more of a collaborative learning network focused on biodiversity would there be a reason for participation?

Bob Steele sees *Witnessing Change* as a good start for WDFW's involvement in a regional biodiversity group.

Bob Bugert noted that the COF maps are really good but they are not completely usable yet. They need to be refined to a usable scale. If the COF maps can become foundation for a technical team to dig in deeper they could have a lot of utility. For example, the Land Trust gets many more opportunities to protect land than we have the resources to do and we have no

mechanism to inform a decision about choosing this property over that. More refined maps could help. But that is a lot of work. How to finance that work and carry it out are open questions.

Chris Branch agreed with Bob's point about the COF maps and pointed out a burgeoning example from the Klamath Basin, a website that provides a sense for the public of the biodiversity and threats to biodiversity in the region by showing pictures of people working and pictures of the landscape that are tied to locations on a map of the region. An ideal version of such a website would enable anyone to go to a particular location on a map and find out who is doing regulatory work there; who is doing restoration work there, etc.

Samantha Bartling commented that she was thinking of the best way of getting everyone to the table. She pointed out that the approach is going to affect who will come to the meeting. The idea of a learning network or clearing house sounds promising. If someone is put off by the term "biodiversity," the notion of a learning network might be a more inviting way to provide access to the information. She asked for clarification on prevailing thoughts about governance of a regional structure.

Bob Bugert explained that the consensus of the steering committee was to keep the group informal without bylaws, etc. There was agreement that if the regional group has utility and credibility, people will come.

Todd Chaudry noted that if WDFW is still planning to take an ecoregional approach there is a need to bring action steps to ground level. He asked what is happening at the state level toward that end.

Lynn explained that the strategy is more than just the maps. Place-based conservation is a part of it but there are other elements around education and the policy role of landowner incentives, and how we manage our data. She noted that she appreciated the thoughtful nature of the conversation but still was unclear about the question to which a regional biodiversity council would be the answer. How does it fit together with work that is already being done in the region?

Ben Field commented that the goal of a biodiversity council would be to make intentional and informed understanding of biodiversity part of all the decisions that go into running lots of different types of things. Biodiversity should have a place in the conversations of all who are making decisions about how we use land as well as everything cultural and economic. If everyone knew enough about biodiversity that it was a regular comfortable part of conversation, it would be easier to work constructively with individual landowner concerns.

Bob Steele noted that it is human nature to simplify to the personal a complex issue but it is important that everyone understand the system and its interconnectedness.

Jay Kehne pointed out that the goal or vision for a regional council could be sharing information and education amongst the group itself in order to provide that information to the general public. It could also be a goal to provide that information to decision and policy makers. He noted that he wouldn't be able to make too many meetings if they were just focused on education for the group itself, but if the goal of the organization is to inform decision makers as well as the general

public then there is something more for organizations like his to be at the table because that is the direction they want to head.

Nancy noted that a biodiversity advisory group could be a venue in which a group of people come together as a learning network and then have a responsibility to take their recommendations to other groups such as the EDD and RC&D. That role would fit well with the structure and function of IRIS.

Chris Branch pointed out that in order to educate and inform anyone making decisions on any level requires educating and informing constituents, because decisions are made based on constituencies.

Jay Kehne emphasized the power of a united front made up of diverse voices when informing decision makers.

Chuck Warner suggested that in addition to providing information to local decision makers, another important function of a regional group would be to provide information to less local decision makers.

Nancy brought up the idea of making IRIS meetings topical rather than just reporting back, e.g. devoting each meeting to an issue such as energy, CRP, shrub-steppe, connectivity, etc.

Ben Field pointed out the value of creating a climate of mutual advising at such meetings because participants could each contribute from their own perspectives.

Samantha Bartling suggested that the outcomes of each topic meeting could include outputs—conversations of how to use biodiversity in tools and incentives. People would come to such meetings knowing they would get information that could address their own needs of mine, or needs of their group or constituency.

Nancy suggested putting out a draft approach toward the next IRIS quarterly meeting and sleeping on which topics to address, ultimately creating a list of topics to be addressed each year.

Rich Watson encouraged to the group to think of biodiversity from a heritage perspective, not solely land use. This would provide a broader picture that would include the cultural, economic, and educational sides. He discouraged use of the label NCW Biodiversity Council, suggesting something like the NCW Heritage Council.

Nancy noted that the broader perspective would be inherent in IRIS convening the group, as in its Nature of Place program area. And, as Bob Bugert suggested, we could just call the group IRIS.

Initiative for Rural Innovation & Stewardship

Connecting People, Facilitating Change



Healthy Lands Roundtable

- An informal regional learning network that provides an opportunity for those with interests in land conservation, economic development, education, and agricultural interests to get together and compare priorities, strategies, and successes.
- IRIS will convene the roundtable in January to look at landscape priorities for biodiversity conservation and in November to report back on successes relative to the statewide biodiversity scorecard
- IRIS will work with partners to arrange meeting locations that will rotate around the region
- Roundtable participants will serve as liaisons to the NCW RC&D, NCW EDD, Washington Biodiversity Council, Arid Lands Initiative, NRCS Local Working Group, Connectivity Working Group and other interested entities as feasible.
- The Roundtable may provide training opportunities for those seeking background on biodiversity and tools, i.e., COF maps
- The Healthy Lands Roundtable will build and draw support over time from the NCW GIS Collaborative, *Witnessing Change* Network, COF maps and data via Washington Biodiversity Council, and the Website Collaborative serving partner non-profits in NCW.

DRAFT NOTES
NCW Biodiversity Scorecard/Environmental Indicators Meeting
May 1, 2009
Community Foundation Office
10:30 a.m. – 12:30 p.m.

Participants: Patrick Jones, Lynn Helbrecht, Steven Walters, Ben Field and Nancy Warner

Purpose of Meeting: To compare projects and look for ways to strengthen both of these indicator/scorecard efforts and maximize our investments. .

Chelan Douglas Trends: Patrick joined the meeting via phone and provided an overview of the Chelan Douglas Trends project www.chelandouglastrends.org, an indicators project modeled after other efforts Patrick and Eastern Washington University have developed in Walla Walla and Spokane. The project is designed to serve the needs of citizens by providing information on trends and benchmarks, i.e., it shows how some things change over time through the use of graphs and pictures and anchors that change to benchmarks taken from other communities and places.

The indicators used to measure and benchmark change were selected through topic specific focus groups drawn from Chelan and Douglas counties. Participants in those focus groups selected the top indicators of their choice for use in launching the program. John Guenther, previous planning director for Chelan County co-chaired the first year of the Chelan Douglas Trends project with Beth Stipe from the Community Foundation. Foundation. Patrick noted that John gave a video presentation on the project at the American Planners Association meeting to showcase the process used. Patrick will see if he can get a copy of this presentation to share with us.

Patrick explained that the trends and benchmarks are being used by planners in Spokane where the project has a longer history, particularly the population and economic indicators. Chelan Douglas environmental indicators include two on air quality, several on water quality and flow using data from Department of Ecology, energy and water consumption, and electricity production and consumption. Land use data is difficult to use at this point because it is seldom updated.

Washington Biodiversity Council Scorecard: Lynn described the Council, created via 2008 Executive Order, as an organization dedicated to taking a more comprehensive approach to biodiversity conservation. The Council created a 30-year strategy that focuses on a landscape approach to conservation (Conservation Opportunity Framework maps), longterm monitoring through a biodiversity scorecard, and education. The Council has contracted with the University of Washington to develop the conceptual framework for the scorecard. Stephen Walters is leading that effort through a post-doctoral fellowship with UW.

Stephen described how the team he has assembled is focusing on assessing available scientific data and then presenting it in an understandable framework. To date, the development of this framework has included interviews with various experts and stakeholders. Lynn noted that they are considering having indicators that are specific to a certain system type, e.g., freshwater streams, wetlands, shrublands, ponderosa pine forests.

Ben Field and Nancy then described how the *Witnessing Change* photo-monitoring program is being designed to be one element or tool for use in assessing multiple indicators that roll up in both the Biodiversity Scorecard and the Chelan Douglas Trends; see preview site at <http://witnessingchange.org/home.html> They want to develop it as a platform for more comprehensive monitoring programs that enable citizens to monitor trends in biodiversity through a combination of photography and data collection at ecosystem, natural community, and species levels.

Discussion: Everyone agreed that engaging citizens, agencies and non-profits in monitoring indicators for the long term is a challenge, particularly in trying economic times. One alternative that was discussed included working with the community colleges across the state to develop linkage between the Biodiversity Scorecard, core curriculum and student employment. Patrick pointed out that Walla Walla has a wealth of organizations looking at water and how some of those citizens have been actively involved in monitoring wells. Steve van Estel at Walla Walla Community College manages a water technician program. Nancy noted that Wenatchee Valley College has also recently created a natural resource technician program.

Lynn described a conference she recently attended on the Kitsap Peninsula about citizen science and was impressed to see the number of ways that citizens are already engaged in monitoring. Coordinating and directing that energy toward an agreed upon set of statewide indicators will be the trick. The possibility of piloting the structure and process for accomplishing that could be tested in North Central Washington as part of the work of the regional biodiversity council IRIS will be convening later this summer. The combined work of partner organizations and citizens will be needed to successfully monitor indicators over time.

Next Steps:

- Patrick will send a copy of the video that John Guenther presented on the Chelan Douglas Trends project process
- Stephen will get together with Patrick to see how the scorecard indicators might mesh with those being used in the trends project
- Ben and Nancy will develop the 3-point look at biodiversity as part of each Witnessing Change trail, i.e., ecosystem, natural community, species
- Nancy will contact Steve van Estel at Walla Walla Community College to learn more about their water technician program.
- Lynn will explore connections between the Biodiversity Council and the community college system