

February 3, 2012

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Via email: actionagenda@psp.wa.gov

**RE: Comments on the draft Action Agenda and Biennial Science Work Plan**

Dear Martha and Gerry,

Thank you for the opportunity to comment on the draft *Puget Sound Partnership Action Agenda and Biennial Science Work Plan for 2011-2013*, dated December 9, 2011. The Environmental Caucus has reviewed the draft Action Agenda, Work Plan, and associated documents and offer the following general comments. Specific comments are included in Attachment 1.

- **Responsiveness summary.** We continue to be frustrated that we send in comments to the Partnership and attend meetings and yet many of our suggested edits and improvements are not incorporated in the documents. At this point, we recommend that a responsiveness summary be completed that indicates why comments submitted by partners, stakeholders and the public are not included. To save time, the comments could be lumped into categories. Responsiveness summaries are standard operating procedures for most state organizations.
- **Monitoring and Education.** We are concerned that monitoring and education are included as actions for some strategies but not all. We have commented numerous times about this concern and yet we see this mode continued in this draft and we fear the final Action Agenda will include this uneven approach. Monitoring and education are critical functions and are needed for all strategies! They should be listed as specific actions in each strategy or should be listed as over-arching strategies. In addition, these are areas where many of the partners, especially including your nonprofit partners, can play a role -- again, across all of the strategies.
- **Increase Compliance with Laws.** The topic of compliance is only listed in one place in the Action Agenda (C1.5. Increase compliance with and enforcement of environmental laws, regulations, and permits). We believe that this is an over-arching action that pertains to every strategy in the Action Agenda and should be so designated.
- **Relationship with Federal Agencies and Tribes.** The Action Agenda can play a more vital role in improving coordination and accountability between state, federal and tribal regulatory programs. The identification of which State Programs have delegated federal authority needs to be identified to assure there is adequate coordination between programs such as Coastal Zone Management Program that is now playing a central role in the development on the National Ocean Policy.
- **Climate Change.** Climate Change is also an over-arching issue and should be included universally with all of the strategies or should be listed as an over-arching strategy.

- **Near-term Actions.**
  - We would like clarity of how you will incorporate the draft near-term actions that are not selected as near-term actions in the final Action Agenda. Most of the draft near-term actions are important and we hope you do not plan to simply omit them from the document if they are not selected in the prioritization process.
  - We do not have clarity of the timeline nor the scope of the prioritization process.
  - We would like to have a public review period for the near-term actions that are selected as priorities.
  - For each of the final near-term actions prioritized, we would like to see the funding plan for that particular action.
  
- **Improved Executive Summary.** The draft Action Agenda is too long for decision-makers to read and so we are pleased to see that a short Executive Summary has now been included. It would be more helpful if this was a stand-alone quick read. Currently the draft Executive Summary primarily focuses on describing process. We suggest that it be revamped so that it tells the whole story of what is needed to recover Puget Sound: What is needed, Who will do it, and How will it be accomplished as well as What will be accomplished in the next two years.
  
- **Salmon-centric approach.** While recovery of salmon runs is a critical issue, the recovery of the entire ecosystem is important - to support both salmon as well as the entire spectrum of species. We would like to see more information and attention focused on other species in the Action Agenda.
  
- **Missing items.** There are many items within the draft Action Agenda that are missing (e.g., “To be determined”). We request the opportunity to comment on these missing items as these items become available for review.

The mandate to recover Puget Sound by 2020 calls for bold action. The Action Agenda is the place to include the true “change agenda” to put the Sound on the road to recovery. Many of our comments in the attachment include recommendations for improvements to significantly strengthen the document. Thank you for your consideration.

Sincerely,



Tom Bancroft

On behalf of the Puget Sound Partnership Environmental Caucus

American Rivers  
 Audubon Washington  
 Bainbridge Alliance for Puget Sound  
 Cascade Land Conservancy  
 Center for Environmental Law and Policy  
 Citizens For a Healthy Bay  
 Coastal Watershed Institute  
 Conservation NW  
 Deschutes Estuary Restoration Team  
 Duwamish River Cleanup Coalition

Earthcorps  
 Environment Washington  
 Friends of the Earth  
 Friends of the San Juans  
 Futurewise  
 Go Wild Campaign  
 Great Peninsula Conservancy  
 Hood Canal Coalition  
 Island County Marine Resources Committee  
 Lake Forest Park Streamkeeper

League of Women Voters of Washington  
Long Live The Kings  
NACA'N  
National Wildlife Federation  
North Sound Baykeeper  
Olympic Environmental Council  
Orca Network  
People For Puget Sound  
Pt Townsend Airwatchers  
Puget Soundkeeper Alliance  
Puyallup River Watershed Council  
RE Sources for Sustainable Communities  
Save Our Wild Salmon  
Seattle Audubon Society  
Sierra Club, Washington State Chapter

Surfrider Foundation  
The Nature Conservancy  
Trust for Public Lands  
WA Pirg  
Washington Conservation Voters  
Washington Council of Trout unlimited  
Washington Environmental Council  
Washington Native Plant Society  
Washington Nurses Association  
Washington Toxics Coalition  
Washington Water Trust  
Whidbey Watershed Stewards  
Wild Fish Conservancy  
Zero Waste Washington

#### Attachments

Attachment 1: Draft Executive Summary, Action Agenda, and Biennial Science Work Plan specific comments

Attachment 2: Example Simple Logic Chains

# Attachment 1: Draft Executive Summary, Action Agenda, and Biennial Science Work Plan specific comments

## Draft Executive Summary

**Overall comment.** The executive summary focuses on process but does not serve as a stand-alone document that outlines (in brief) the path to recovery AND the two-year priorities. We recommend that it be revamped to be more like an “outline for success.” A reader (such as a legislator!) should be able to read this document as a quick read that tells the whole story, similar to the JLARC report (i.e., to recover the health of Puget Sound we need to do xx strategies, we will know we have recovered the health when these targets are met, we will fund it by doing xx, and in the next two years the priority actions are xx).

- Lack of cultural sensitivity in the intro paragraph. Also lack of clarity of the geographic scope. Suggested language:
  - From the lush forests and lofty mountains of the Cascades and the Olympics to the dynamic, scenic waterways and coastlines, Puget Sound is a national treasure. The Sound AND ITS WATERSHEDS support a remarkable diversity of fish and wildlife species, provides us with drinking water, seafood, timber, a location for ports and marine industries, opportunities for outdoor recreation, and a buffer from Pacific storms. The Sound IS INTEGRAL TO TRIBAL CULTURAL HERITAGE AND its degradation puts Treaties at risk of being unable to support their WAY OF LIFE. Residents and visitors alike are drawn to this beautiful and abundant ecosystem.

**Page 7. Legislative.** Legislative actions are highly incomplete. Either this section should be eliminated (especially in the Executive Summary) or it should be significantly expanded. It is misleading to have just these few items included.

**Page 8. Goals.** The Recovery goals should be framed in terms of recovery of a healthy ecosystem in which all species are thriving. The focus of this paragraph is rather focused on humans: “The State Legislature established six goals that are the ultimate articulation of what it would mean to have a healthy Puget Sound. While we don’t expect Puget Sound to return to conditions before European settlers first arrived, we do want to derive many of the same benefits offered them, from a healthy, vibrant Puget Sound in the 21st century and beyond.”

**Page 11. Ongoing Activities.** “Ongoing activities” should also be tracked by the Partnership. We have a challenge in that the Partnership has not truly evaluated the activities being taken by the partners (agencies, etc.) to ensure that these are the right “ongoing” activities to steer the Sound towards recovery. We view this yet to be fulfilled role of the Partnership to one of the most promising and needed activities.

**Page 16. Near-term actions.** It is confusing to jump into a table of near-term actions without a previous section of the Executive Summary that better summarizes the recovery strategies. It would make the executive summary stronger to include those so that the reader has a better sense of how the plan will lead to recovery.

## Draft Action Agenda Text

**General comment – overall Action Agenda draft – Logic chains.**

- We commented previously and here comment again that it would be more beneficial for the reader if simpler chains (see Attachment 2 for three examples we have drawn up) were used in the text and the more detailed (and more difficult to read) Miradi diagrams were incorporated in an appendix.
- In addition, the logic chains should be for the full recovery, not terminated at 2020. 2020 is a midpoint on the road to recovery.

## RECOVERY CONTEXT: THE CURRENT STATUS OF PUGET SOUND

**Page 5. Pressures.** The pullout box titled “PRESSURES ON PUGET SOUND” is confusing. It would be helpful if it was simply a definition of “pressures” and then moved into explanatory text about how that relates to the process used by the Partnership:

Recovery targets consider both indicators of the statutorily-established Puget Sound goals and the pressures on the Puget Sound ecosystem that may make recovery difficult. Ecosystem pressures identify human activities that may impact the physical, structural, and ecological processes and functions in the ecosystem. Many of these human activities also may provide direct and indirect benefits to the ecosystem and/or may be relatively neutral to the ecosystem but provide benefits in terms of human quality of life. The goal is not to eliminate human pressures on Puget Sound, but to understand and manage them towards ecosystem protection and recovery.

**Page 5 on.** Just including the table of indicators/targets does not tell the whole story. It would be helpful if this section of the action agenda provided more explanation and caveats that the indicators were picked to be easy for the public to understand and that they do NOT represent the entire health of the ecosystem. In addition, the title of this chapter implies that there will be a discussion of the current health of the Sound. It would be helpful if there was at least a reference to the State of the Sound and the new wiki.

## HOW DO WE RECOVER PUGET SOUND TO HEALTH?

**Page 12.** This opening sentence is confusing – “This section describes how strategies and actions were developed and presents the complete picture of Puget Sound recovery including strategies and sub-strategies, ongoing activities and near-term actions.” It would be clearer if it stated that this is the plan for recovery.

**Page 13.** The “Open Standards for the Practice of Conservation” is not defined.

**Page 15. Legislative.** Same comment as above regarding legislative program.

### **Page 16. Climate Change.**

- The descriptions of potential climate change impacts and the overall concern is well articulated. We are concerned, though, that specific strategies are not yet included in this draft and not sure how public review will occur of those strategies/actions. We would like an opportunity to review these.
- Throughout the current draft of the Action Agenda there is an inadequate climate-change overlay for expected impact on each indicator or target. Climate is only treated as a "cross-cutting" issue for a few topics, including Flood Plains. We request that sub-strategies, like the 6th sub-strategy for Flood Plains, be emulated across each of the key sections that cover Upland and Terrestrial, Marine and Nearshore and Reduce and Control the Sources of Pollution in Puget Sound.
- The Puget Sound Partnership is explicit about working with the Washington Climate Impacts Group, which we applaud. However, there are many additional groups that should be included in this discussion and analysis. We recommend looking into the Washington Connectivity Working Group that is already thinking about how to increase opportunities for adaptation so that plants and animals can survive changes in the climate by moving to more tolerable habitat. Our campaign has focused on how to connect the Cascades to Puget Sound, which will be essential to protecting viable populations of wildlife. More attention must be paid to the uplands, as they play a key role in determining water quality, safeguarding migrating species, like salmon and they are the arena for which we must confront some of the most difficult pressures, like human development and population growth.

### **Page 17. Adapting for a Changing Climate.**

- Too often, the action agenda refers to adaptation in a policy framework, considering how the Partnership can adapt the Action Agenda to confront climate change. Not enough emphasis is placed on creating adaptation opportunities for wildlife. It will be essential to both plan to adapt policy and plan to provide biological adaptation for species to

survive climate change. Our solution to this problem is addressed below in our proposed climate-based plank of the prioritization framework suggested on page 25.

- Resilience is described as "ability for natural systems to bounce back" or "minimize harm." Resilience should be characterized as fostering ecology that can endure more pressure from multiple sources. Part of this is bouncing back, and part is to minimize harm, but the bulk will be an exercise in ecosystem endurance through climate-smart management. For example, supporting efforts to preserve the genetic diversity of species would further support resilience.
- The text (Page 18) refers to "non-climate stressors" but is incomplete. Please insert additional non-climate stressors, including: invasive species and over-harvest of aquatic and uplands resources, which both represent key pressures that will be exacerbated by climate change.

**Page 20. LIO Process.** A little more contexting as to the history of geographical boundary changes between the 2009 Action Areas and the existing LIO structure would be helpful especially if such contexting can explain that the current framework for local involvement is a significant improvement over the Action areas rather than just different. We have an overall concern that the new structure too closely mirrors existing salmon recovery geography which is watershed focused and often underemphasizes marine and nearshore resources and threats. Similar to the shortcomings of the salmon recovery response, perhaps a marine and nearshore LIO needs to be convened which focuses on comprehensive marine spatial planning and ecosystem based management of submerged habitats and marine species populations. Local expertise exists within the NWSC MRCs and certain other county governments, state agency staff and NGOs.

#### **Page 25. Setting 2012 Near-Term Priorities**

- Among the priority pressures identified at question 1 ("Potential contribution to ecosystem restoration by reducing priority pressures), we recommend the following critical component of recovery should be included: "loss of flows in streams and rivers".
- We are encouraged by the Prioritization Framework that will be informed by some fact-finding for each NTA. We are concerned about how these will be weighed against one another and would encourage emphasis be placed on reducing pressures and preventing ecological loss.
- We also strongly suggest adding a heavily-weighted climate component to this section that would help the Partnership include climate as a cross-cutting issue at the NTA level. This is the only way to ensure that NTA's which specifically address expected climate impacts are given priority. We recommend the following model (similar to the examples on Page 25)

Prioritization Criteria:

Potential to positively contribute to climate change preparedness:

Does the NTA Facilitate Adaptation?

1) Does the NTA protect adequate space?

The best defense against climate change is to protect large wild places and surrounding buffer areas which are connected to other protected core areas. This connected wildlands network will allow imperiled species to move to more hospitable habitats as the climate changes, thereby increasing their chances of survival. Historically, we drew up boundaries for proposed protected areas based upon what met strict historic criteria for parks or wilderness areas, and we presumed the climate would remain stable. Going forward, we need to design climate refugia that not only have core wilderness areas, but also provide for restoration and connectivity and that look beyond federal public lands. A core area may be an existing protected park, wilderness area, or refuge, or it may be an unprotected roadless area. It should be large, relatively wild, and largely unfragmented. A buffer area is adjacent to a core area and is generally less wild, but still largely undeveloped. Sometimes it may have been developed in the past but now it is in the process of restoration. A connecting corridor may be a continuous pathway between nearby core areas, or it may be a series of stepping stones that allow connectivity. An example of how this is changing our work: now when we lobby or litigate to protect endangered species critical habitat, we also make the case that the

designated habitat needs to take climate change and range shifts into consideration. Protecting adequate space represents a serious challenge around Puget Sound, and must be prioritized where it can be.

2) Does the NTA limit the relevant non-climate stressors that adversely impact threatened species? Habitat fragmentation, pollution, invasive species, overharvest, and other human-induced stressors on an ecosystem work in synergy with climate change to threaten species with extinction. To build ecosystem resilience we need to limit or eliminate non-climate stressors so that species have a fighting chance. In the past we have opposed commercial logging, mining, energy development, overgrazing, off road vehicles, highways, housing developments, and air and water pollution because of the environmental impacts they caused, presuming a static climate. Now we have new information that tells us these stressors when combined with climate change may lead to species extinctions.

3) Does the NTA allow for or facilitate climate-smart management?

In some cases protecting adequate space and connectivity and reducing the stressors will not be enough to ensure survival of species. Ecologically based habitat manipulation (such as prescribed burning), captive breeding and reintroduction, control of pests or disease, and other management interventions may be appropriate in certain circumstances based on the best available science. Effective climate-smart management will require a responsive and flexible approach coupled with monitoring to assess how species respond to climate change and management interventions. Climate change also gives us new compelling arguments about the importance of coordinating climate-smart management across land management agency jurisdictions. Landscape level coordinated planning such as the Landscape Conservation Cooperative plan being promoted by the Interior Department to coordinate all federal agencies, state governments, and local entities are key. This type management can include such elements as 'wildlife bridges,' dam removals, road removals, etc.

Does the NTA Facilitate Climate Mitigation?

4) Does the NTA improve our reliance on natural systems?

Whenever possible, we should use natural systems to safeguard communities from climate change. The temptation of community disaster planners is to deploy expensive structural solutions to address climate change threats. Sea walls, levees, larger storm sewer systems, channelized rivers, desalinization plants, trans-basin water diversions, and the like are too-frequently viewed as the best way to protect communities from climate change. As detailed in the Sierra Club's Safeguarding Communities Campaign, we advocate for protecting and restoring natural systems since these actions build resilient habitats, store carbon in natural systems, and provide cost-effective protection for communities. As climate change impacts accelerate, there will be renewed efforts to build more reservoirs to supply more water, cut down forests to protect communities from wild fires, build new sea walls and levees to combat flooding. Some of these traditional "solutions" are part of the problem and keep communities in harms way. Natural systems, like Nisqually, can protect communities and provide habitat for wildlife.

5) Does the NTA help mitigate climate change by increasing carbon sequestration?

The oceans are already supersaturated from absorbing excess CO<sub>2</sub>. If we protect, restore, and properly manage our nation's agricultural lands, forests, prairies, and wetlands and marine environments, we can vastly increase the amount of CO<sub>2</sub> that is locked up in plants and soils and thereby reduce atmospheric CO<sub>2</sub> to safer levels. In the process, we will also create more resilient habitats on these lands and waters by improving management practices. Public lands should be managed to maximize natural systems carbon sequestration and protect natural ecosystems. Farming and private woodlot management practices that store carbon and simultaneously eliminate fertilizers, reduce tillage and soil disturbance, and provide habitats for native species are the actions we want to encourage and reward.

Does the NTA improve our data, monitoring, or develop inter-disciplinary analysis that develops our understanding of climate change?

1) Does the NTA increase monitoring for climate, bring together reports on climate, facilitate deeper climate analysis on targets/indicators/strategies/actions?

## HOW DO WE RECOVER PUGET SOUND TO HEALTH?

**Page 29. Upland and Terrestrial.** It seems that fish passage improvement (removal/modification of culverts, dams, etc) should be considered a high level strategy. This concept is weakly included in some ongoing programs below, but to be complete in terms of the recovery plan, this seems to need a higher profile.

**Page 31. Logic chain.** This chain does not easily read to the viewer as a chain to success. It would be clearer if all yellow boxes in the chain started with an action verb. In addition, the arrows do not completely show how various actions flow (for example A.1.1. flows to A.2). Are not A.3.1 and A.3.2 sub categories of A.3.3?

**Page 31. Logic chain.** For Land Development, there is a flaw in the logic of the “How and Where” intermediate result box of the logic chain if 9000 acres of additional forest is cleared for development and local jurisdictions are still able to exceed GMA targets by 3%. We have less concern about the .13% change in vegetated cover as it is within the range of annual natural regrowth and within the error of repeated satellite-interpreted land cover estimates.

**Page 34. Ongoing programs – general comment.** It would be helpful if each ongoing program was described using a standard format. As written, they are all different (appear to be written by different authors) and they do not provide consistent information. In addition, it would be helpful if each program’s description includes the responsible agency/entity and the source of funding. Overall, it might work best if the ongoing programs for each substrategy were included in a table format.

**Page 34. Ongoing programs- Watershed Characterizations and Stream Typing (A1.1).** The Watershed Characterization project was a high priority (and well funded) near-term action from the 2008 Action Agenda. The text on these pages should a) reference that, b) indicate how many have been done, and c) give some information on how they are actually being used (assuming that they are). Similarly for stream typing – what percentage of Puget Sound has been completed?

**Page 36. A1.1 NTA1.** Language for this near-term action is rather cryptic. An example of an ecosystem protection standard from one of the listed frameworks should be given.

**Page 37. A1.1 NTA2.** Science need identified is quite a complex, time-consuming and expensive task as experienced by PSNERP. Identifying the ingredients (necessary data layers), combining the right data into a coherent, logical and consistent analysis e.g. creation of scoring criteria for conservation is considerably more difficult. Each of the existing tools should map their coverage over the entire Puget Sound ecosystem and a decision support tool developed only for those areas left out of either PSNERP, Salmon Recovery, PHS, etc.

**Page 37. Ongoing programs – Planning (A1.2).** It would be helpful to also include descriptions of efforts such as the Puget Sound Regional Council’s work.

**Page 39. Ongoing programs – Permitting (A1.4).** It would be helpful to include a brief table that lists that existing permitting programs that would be considered in this action, such as NPDES, 401/404, etc.

**Page 39. A1.4 NTA1.** A third party auditor such as OFM or the Partnership staff should be given this task rather than a line natural resource agency with a regulatory or fiduciary mandate that includes a no net loss policy. Delegated programs such as SMA and GMA will have to include a system of self-reporting followed by a sample check-up of representative jurisdictions by OFM or the Partnership to ascertain level of compliance to the policy.

**Page 41. Logic chain.** This logic chain does not provide value to the document. There is no chain. We suggest that one simplified chain be used for each strategy (which includes the substrategies as steps in the chain).

**Page 42. Obtain Full or Partial Property Interests (A2.1).** What constitutes a project being “referenced” in the Action Agenda? Can the Action Agenda incorporate all projects on the Habitat Work Schedule by reference, for example, rather than having to list a project within the Action Agenda itself? This would be preferable as the HWS is the agreed upon

system for storing proposed and active projects and would prevent funding from one of these accounts being withheld because the project was conceived after the publishing of this version of the Action Agenda.

**Page 43. A2.1 NTAs 5 and 6.** Why is the Forterra project called out specifically? Is it because of the explicit direction to state agencies? There are a number of qualified priority acquisition projects identified in HWS, many of which may ultimately require state agency programmatic and funding involvement and all of which now undergo competition for limited acquisition funds based on the merits of their proposal relative to others. If state funds were to be used exclusively for this purchase, or if it were demonstrated that this project is of overwhelming statewide significance relative to other acquisition projects seeking funding, then it would be appropriate to list the project as a NTA in this section of the Action Agenda. These NTA's should be moved to the North Central/West Sound Action Area strategy.

**Page 44. Near Term Actions - Use Special designations to protect intact areas (A2.2).** We recommend adding the following potential near term action because designation of high priority lands and rivers under the Wilderness Act and the Wild and Scenic Rivers Act is an important tool for Puget Sound and Hood Canal protection and recovery. The Action Agenda included an action to support and advocate for Wilderness and Wild and Scenic designations. This near-term action in the 2008 Action Agenda was an important first step, and we believe there are opportunities ahead for expanding intact habitat protection in the region. Therefore, we urge the Partnership to continue its support for the Alpine Lakes Wilderness addition and Pratt River Wild and Scenic designation. We also urge the Partnership to update the Action Agenda to include support for the following protections: Wild and Scenic designation of the Middle Fork Snoqualmie River and Illabot Creek in the Skagit basin and Wilderness and Wild and Scenic designations in high priority areas like the Nooksack River basin and the Olympic Peninsula. On November 15, 2011, Senator Patty Murray and Congressman Norm Dicks issued an announcement ([http://www.house.gov/list/speech/wa06\\_dicks/morenews1/olywilderness.shtml](http://www.house.gov/list/speech/wa06_dicks/morenews1/olywilderness.shtml)) of their own draft proposal to establish new Wilderness, Wild and Scenic River and willing seller National Preserves on the Olympic Peninsula. Congressman Dicks and Senator Murray's draft proposal would provide durable, permanent safeguards for the Peninsula's watersheds, many of which feed into Hood Canal and the Straits of Juan de Fuca. Support from the Partnership will go a long way to help secure these protections within the next few years.

A.2.2 Advocate for proposed Wilderness designations: a) support Alpine Lakes Wilderness addition and b) Pratt River Wild and Scenic designation.

**Page 45. Target View.** It is confusing to interweave the target views with the Strategies (especially because most of the targets relate to numerous strategies). We recommend that these target descriptions be pulled together into one chapter of the Action Agenda.

**Page 47. Protect and Steward Ecologically Sensitive Rural and Resource Lands (A3).**

- The statement about forest conversion to residential development as a detriment to the forest industry is a concern. Doesn't Weyerhaeuser have its own development company that builds on divested commercial forest lands? We appreciate the statement mentions carbon sequestration, but rather than passively accounting for that ecosystem benefit, we should incentivize the retention of forest acreage through the active registration of private forest lands into carbon offset banks as a strategy.
- In the Agricultural Lands statement, sea level rise projections should be included as a threat to potential future loss of agricultural lands, not just conversion to other land uses. Certain areas like the Skagit, Snohomish, Stillaguamish and Nooksack deltas are particularly vulnerable.
- Why is this issue only being addressed through voluntary and incentive programs? Forest and Ag lands are being converted because local governments are allowing zoning changes and subdivision of these lands. Why does the Action Agenda not connect state enforcement of local implementation of GMA to this issue? Aligning tax and other subsidy incentives with a strong regulatory program that prevents conversion is necessary to stop this trend.

**Page 57. Enhance and expand the benefits of living in compact communities to increase consumer demand for them.**

**(A4.3).** The real estate market forces strongly outcompete any incentive programs for increasing urban density. Low cost housing options within urban growth boundaries are a necessary ingredient in this strategy, otherwise, rural areas will continue to develop. An economic analysis of per capita costs for urban versus rural dwellers should be added to the social

science component of the Biennial Strategic Science Plan so that manager are able to address the market disincentives with real data.

**Page 61. Flood Control.** While seemingly a semantic argument, the term “flood control” should be universally replaced with flood attenuation, flood risk management, flood hazard management or similar. Flood control as we know it, besides being impossible, is necessarily at odds with salmon recovery and ecosystem restoration.

**Page 64. Protect and Restore Floodplain Function – General Comment (A.5).** It is unclear how the Partnership will achieve both restoration and protection of current floodplain habitat. If only restoration is done, and protection is not, then there will be much restoration investment that results in no (or little) net gain in flood plain function. The Partnership’s plain to meet the no additional loss standard is unclear. Providing clarity to what “no additional loss” means, and specific actions that address this goal will be essential to meeting it. FEMA has not been sufficient in ensuring that communities live up to BiOp expectations, and thus the Partnership and others have a role to play in ensuring compliance.

**Page 64. Planning group (A5.1).** This new working group should also include NWF as they have been a key stakeholder in the effort to address floodplains. Other groups are also highly qualified: American Rivers or Wild Fish Conservancy, for example. Moreover, these terms already have definitions in the literature, including the Puget Sound Partnership report referenced in this section, so convening such a large and unwieldy group to redefine them seems a waste of the Puget Sound Institute’s resources.

**Page 64. A5.1 NTA 1.** “The Ruckelshaus Process” is not defined or referenced here.

**Page 64. A5.1 NTA2 and 3.** The findings of this data gathering exercise should be published in a report first, reviewed by the Partnership Science Panel and then outreach messaging and the action plan referenced in NTA3 should be developed from the peer-reviewed findings of both reports

**Page 69. Protect and maintain intact and functional floodplains (A5.4).** Current status of FEMA BiOP is incomplete. Currently National Wildlife Federation has a pending litigation against FEMA for not fully implementing the seven elements of the RPA. This litigation, in part demonstrates that FEMA is not in compliance with the BiOp. The Partnership has a role to play in facilitating local municipal adoption of the seven actions to comply with the ESA. The second action to comply deals with mapping and improving flood plain maps. Mapping flood plains is particularly challenging because of the problematic FEMA definition that is used to identify the flood plains. This definition is solely aware of past projections and does not account for anticipated climate change.

The existing Model: FEMA Floodplain

- Area inundated by flood with 1% chance of being equaled or exceeded in any given year (100 year flood)
- Defined by FIRM (Flood Insurance Rate Map)

We recommend working with FEMA and others to address this definition problem, and encourage a definition that takes the ecological, biological, and geological definitions into account.

We recommend the following model for defining floodplains:

Recommended Models: Ecological Floodplain

- Areas periodically flooded by lateral overflow of river or lakes
- Biota responds to change in environment

Geomorphic Floodplain

- Flat, depositional feature of river valley
- Adjoins river channel

- To best define floodplains, we also recommend considering George R. Pess and Sarah A. Morley’s assessment in Monitoring Stream and Watershed Restoration, Chapter 6: Monitoring Floodplain Restoration: “River corridors are naturally dynamic and ecologically complex components of a watershed and often contain a disproportionately high amount of the total regional biodiversity (Naiman et al. 1993; Ward et al. 2001). Unaltered river corridors have heterogeneous landscape features, dominated by dynamic conditions, and exhibit scale-dependent biophysical patterns and processes (Ward et al. 2001). A prominent feature within river corridors is the floodplain (Figure 1).

- Geomorphologists traditionally define a floodplain as a flat, depositional feature of the river valley adjoining the river channel, formed under the present climate and hydrologic regime and during times of high discharge (Leopold et al. 1964; Dunne and Leopold 1978; Leopold 1994). Hydrologists and engineers view the floodplain either as land subject to periodic flooding or the area flooded by the 100-year flood event (Dunne and Leopold 1978). Ecologists have defined the floodplain and accompanying habitats as areas that are periodically inundated by the lateral overflow of river or lakes, or direct precipitation or groundwater; the resulting physiochemical environment causes the biota to respond by morphological, anatomical, physiological, phonological, or ethnological adaptations, and produce community structures (Junk et al. 1989).<sup>1</sup>

**Page 69. FEMA completes augmented annual reporting requirements (A5.4 NTA 1).**

- This action (By 2012, FEMA completes augmented annual reporting requirements relative to the obligations of the 122 communities in Puget Sound to abide by the NMFS NFIP BiOp.) illustrates a problem with some of the near-term actions. These are actions that are required to occur and so do not represent a change agenda. We suggest that this near-term action be changed to an “ongoing action.”
- Furthermore, as of the date of this draft document, the outcome of NMFS deadline for FEMA and the 122 communities out of compliance and any remedies as a result of missing that deadline should be included in this section. NTA 1 regarding reporting requirements is equally unsatisfying. Are FEMA and the 122 jurisdictions continuing to jeopardize listed species or are they not? Should NTA 1 not require completion of ALL 7 actions?
- There are challenges with entrusting FEMA with sole responsibility over ensuring compliance. The Puget Sound Partnership has a role to play in facilitating municipal compliance. Most municipalities that FEMA has said are complying are not. They are operating without adopting essential management changes. The Partnership’s role is to both educate communities, and to educate municipalities of the potential flood hazards as well as ecosystem services floodplain function offers.

**Page 70. CAO Updates (A5.4. NTA 2).** Federal CAO requirements are higher (better for protecting floodplain function) than Washington State requirements; moreover, these regulations often conflict. We recommend the Partnership works with the state to make state standards overlap with federal standards so that these regulations do not conflict. It makes no sense to have municipalities trying to comply with two sets of competing regulations that ultimately have different goals.

**Page 70. Protect, enhance, and restore floodplain function on forest and agricultural lands (A5.5).** As with other land development issues, the Action Agenda should call for enforcement of existing open space and zoning laws, consider zoning changes that result in protecting and restoring floodplain functions and preventing further subdivision of floodplains for residential development with the backing of the FEMA BiOp as opposed to only listing incentive programs.

**Page 70. Ongoing programs – FFPP (A5.5).** As mentioned above, fish passage barriers are a significant problem in Puget Sound and are not restricted to just forested lands. We suggest that a unique substrategy be created – Removing Fish Barriers. This ongoing program (The Family Forest Fish Passage Program (FFPP) is a cost-share program that helps small forest landowners renovate barriers on their land to allow fish passage in small waterways...) be included in that substrategy, along with other programs.

**Page 73. Incorporate climate change forecasts into floodplain protection and restoration strategies (A5.6).** It is confusing to include a substrategy for Climate Change for the Floodplain strategy but not other strategies. It is noted in the introductory pages that you plan to incorporate climate change actions throughout the final version of the Action Agenda. We agree that this is important.

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<sup>1</sup> Monitoring Stream and Watershed Restoration. Chapter 6. Monitoring Floodplain Restoration

**Page 73. A5.6 NTA1.** Rather than calling out representation from the Climate Impacts Group, a special nomination for a science panel member with climate science expertise would be more appropriate.

**PAGE 73. Near-Term Actions (A5.6).** We recommend that the following potential near-term action be added: There should be a Climate NTA that works to address the challenging flood plains definition problem as described above in our opening comments on section A5.4. Current definitions leave us ill prepared to confront our rapidly changing flooding expectations that are even more uncertain based on climate models. Again, we suggest the definition be based on the analysis of George R. Pess, Julie L. Hall, and Raymond K. Timm in Chapter 6 of Monitoring Stream and Watershed Restoration. (See comment re: page 69 above)

**Page 74. Target View: Floodplains.** While there is little reference to armoring, we would highly recommend a preference of natural systems compared with “built” solutions that do not offer additional habitat benefits. Perhaps a more specifically demonstrated cross-walk between these two issues belongs in this section.

**Page 76. Implement and Maintain Freshwater and Upland Restoration Projects. (A.6).** This section is confusing because it stands alone from A.8. Protecting and Conserving Freshwater Resources. Restoration projects require sufficient freshwater flows in streams and rivers to support salmon during all critical life stages, and that dependence should be underscored in the Action Plan.

**Page 79. Urban restoration (A6.3).** This text should be improved to include at least a few sentences about the huge amount of work currently occurring in urban areas. In addition to planting native vegetation, there are efforts to remove invasive species, remove bulkheads/regrade banks, set aside portions of private lots for open space, plant trees, and daylight creeks.

**Page 80. General comments – Mitigation.** This title (“Mitigation that Works”) is politicized. We recommend that it be in line with the other strategy titles along the lines of “Improved mitigation approach.” Many people have serious doubts that this strategy is not the right direction to take. In addition, the text should include a paragraph that explains the mitigation sequence (do no harm, minimize impact, onsite, etc) so that a reader unfamiliar with the subject does not jump to the conclusion that all projects immediately leap to off-site mitigation.

**Page 81. Ongoing programs – Mitigation.** Why are the Partnerships’ own efforts related to in-lieu mitigation not listed as ongoing programs for any of these substrategies? This was listed as high priority in the 2008 Action Agenda.

**Page 83. Freshwater Protection.** We applaud the Partnership’s continued focus on protecting freshwater as a critical component of Puget Sound recovery. We note however an organizational issue. Some of the categories that appear to be included within “Freshwater Protection,” such as Salmon recovery, and Biodiversity, are not related to just freshwater. This can create some confusion for the reader.

**Page 84. Water Resources (A8).** The order of the strategy seems to be out of sequence in this part of the Action Agenda. The following strategies – Salmon recovery, Biodiversity, etc. – are not related to just freshwater and thus it is confusing the reader that these are all lumped together and the order that they are in. We recommend that a new super-category be created with a name along the lines of “Species recovery” and the relevant substrategies be included there.

**Page 84. Update Puget Sound instream flow rules to encourage conservation. (A8.1).**

- Instream flow rules are the best tool we have for protection of flows in rivers and streams, but as presently configured and implemented, they can fall woefully short of achieving the goal of ensuring sufficient water instream to restore and enhance fish and wildlife, and protect water quality for all uses. Instream flow rules are subordinate to senior rights, and, during water-short periods, instream rights can be curtailed or shut down altogether. Moreover, many of the instream flow rules adopted for Puget Sound Water Resource Inventory Areas (WRIAs) are not based upon adequate science, such as instream flow incremental modeling studies. As the Partnership points out, the Kennedy-Goldsborough instream flow rule dates back to 1988. Ecology or an independent science consultant should assess of the adequacy of the regulatory targets set by the existing instream rules in the Puget Sound region against river and stream performance, and in particular compliance with the goals

of the Recovery Plans for Puget Sound Chinook and Hood Canal Summer Chum. Based upon that assessment, and up to date science and instream flow incremental modeling, existing, inadequate instream flow rules should and must be amended as required.

- Moreover, new instream flow rules and updated instream flows rules must integrate groundwater modeling for each WRIA to be scientifically valid in order to be worthwhile as a regulatory tool and a driver of salmon recovery. During this region's typically dry summers and early falls, groundwater is a substantial (and in some streams the sole) contributor to streamflow. Therefore, especially during the critical migration and spawning periods of summer and fall, we must refrain from consuming the groundwater that feeds and maintains adequate flows for fish. To do that, the Puget Sound region needs to understand the distribution and extent of its groundwater resources. Ecology needs the resources to undertake comprehensive groundwater mapping.
- Finally, to achieve the goal implicit in the Partnership's title for this section, that is, encouraging conservation by updating the instream flow rules, Ecology must step up to its mandate, under RCW 90.03.360(2), requiring metering of all new and existing diversions "in which salmonid stock status is depressed or critical" or if the volume of the diversion is 1 cfs or greater, and use that data in setting instream flow rules and making water availability decisions. The importance of metering existing uses is particularly important in ascertaining municipal and public water system uses, as well as permit exempt uses for domestic needs and stockwatering. Without quantifying what is being used from the water system, we cannot budget for adequate instream flows and future uses, especially as the impacts of climate change increase and cause aquifer levels to decline.

**Page 86. Key Ongoing Program Activities.** We urge the Partnership to add the following: "Ecology will renew efforts to require metering in all new and existing diversions in the Puget Sound region due the listed status of Puget Sound Chinook and Summer Chum, and use metering data in making water availability decisions, and modeling groundwater. Ecology will use that data and the best science available in setting and updating instream flow rules."

**Page 86. Near Term Action A8.1 NTA 2.** Ecology's development of comprehensive basin flow protection and enhancement programs, as called for in the Recovery Plans, should inform the setting of new and amending of existing instream flow rules. While very important, the basin flow protection and enhancement programs Ecology develops are not enforceable. Instream flows are enforceable (or at least are in theory). While collaborative approaches are very important to water management, when many needs are clamoring for this increasingly stressed and scarce resource, instream flow rules grounded in law and science are the foundation of a water management system that will improve freshwater flows to Puget Sound. All the watersheds that significantly contribute to Puget Sound's freshwater inputs should be identified and instream targets based on solid science set for each. As an initial step, the action plan should call for meeting current instream flows set by regulation (and currently go unmet), and for setting instream flows in Puget Sound rivers and tributaries without flow rules. As a further note, Ecology does not currently have the budget to implement these plans. The Action Agenda should incorporate specific recommendations to the Legislature and the Governor to fund the work with which Ecology is tasked.

**Page 86. Near Term Action A8.1.NTA 3.** The Partnership wisely directs Ecology to establish local water masters. Certainly water masters are important to water code compliance and enforcement. In addition, however, state law needs to be changed to give Ecology enforcement authority, through those water masters, over water rights, including instream flows, and sufficient funding to do so.

**Page 86. Near Term Actions.** We recommend adding the following to the list of potential near term actions because, remarkably, given the investment in salmon recovery planning, there is no agency -- local, state or federal -- that is tasked with the responsibility to protect and restore flows to sustain and restore fish and wildlife:

**A8.1.NTA 4.** The Legislature would be recommended to create an entity or empower an existing agency with the authority to protect and restore flows for the recovery of salmon and Puget Sound. *Performance metric: Done or not.*

**Page 87. Decrease the amount of water withdrawn or diverted and per capita water use - Key Ongoing Program Activities (A8.2).** As to implementation of the Department of Health Water Use Efficiency rule, we note that current law

allows municipal water suppliers to select their own goals. Clear goals tied to achievable conservation measures and programs should be mandatory. Moreover, the achievements of conservation programs should be measured against the water needed instream to achieve Puget Sound recovery. In addition, Ecology's obligation to meter new and existing uses is a key component of decreasing water usage.

**PAGE 87. Near-Term Actions (A8.2).** We recommend that the following potential near-term actions be added:

**A8.2 NTA 2.** We suggest that the Partnership specifically underscore the importance of developing reclaimed water. Indeed, King County's current efforts to develop a reclaimed water plan that will, among other attributes, incentivize its use by competitive pricing, are a model for the entire region and are, in part, driven by the County's efforts to recover Puget Sound. The Partnership should use King County's efforts as the basis for region-wide recommendations.

**A8.2 NTA 3** – That the Partnership call for the Legislature to create a comprehensive water management plan for the Puget Sound region that expressly addresses demand management. The planning process should include utilities, water districts, counties, Ecology, tribes and the community. One clear purpose of such planning is to shift new development from permit exempt wells; the proliferation of such wells has created significant stress to watersheds in the past decades. Such planning must facilitate easier and, if possible, cheaper hook-ups to public water supplies.

**Page 88. Implement effective management programs for groundwater Near-term action (A8.3 NTA 1).** We applaud the directive to Ecology to work with the enumerated parties on making consistent decisions about exempt wells. However, in most watersheds, neither local governments nor Ecology currently have the data required to make an assessment as to water availability that should occur before an exempt well is allowed. Therefore, what is needed first is funding for Ecology to do groundwater resource assessment (also known as water mapping). The use of exempt wells is becoming increasingly contentious in the water-stressed basins of Puget Sound. Many people disagree that there are real shortages. Without the underlying technical data, no stakeholder group will be able to agree on an exempt well strategy.

**PAGE 88. Near-Term Actions (A8.3).** We recommend that the following potential near-term actions be added:

A8 NTA 2. The State Supreme Court recently held that permit exempt wells used for stockwatering do not have any daily extraction cap or other limitation. The counties of Puget Sound are the seat of the state's dairy industry. Whatcom County alone has over 120 dairies, many of them with thousands of animals. An estimated 60% of dairies and stockwatering operations rely on permit exempt wells, making tracking the amount of water used in those industries very difficult. Ecology does not monitor that usage. This unassessed but growing usage often occurs in water-stressed basins which inevitably impact instream flows, and may do so significantly—however—we cannot be sure in the absence of data. We recommend that the Partnership adopt a near term action calling for assessment of permit exempt usage from the dairy and stockwatering industries of Puget Sound, and the impact of those industries on instream flows and Puget Sound recovery.

**Page 95. Strategic Leadership and Collaboration.** D3 is omitted from the current draft. We recommend inserting the following as D3. Making specific recommendations to the Legislature, state agencies, and local governments for legislation and regulations necessary to implement near term actions.

**Page 100. Protect and Restore the Native Diversity and Abundance of Puget Species (A.10).** This strategy should include a brief discussion of the new research (Seabird-fish research shows threshold for danger <http://www.thenewstribune.com/2012/01/01/1965290/seabird-fish-research-shows-threshold.html>) related to the interconnection between fish and birds, fish and orcas, etc. As this new report has shown, fishing can have devastating effects on seabirds.

**Page 101. Coordinating species recovery plans (A10.1).** It is important that all recovery plans be coordinated, not just the upland and freshwater species. We recommend that salmon, orca and other plans be included on the list as they are all interconnected.

**Page 102. Fish and Wildlife Action Plan (A10.1 NTA 1).** This near-term action appears to be an “ongoing program” and perhaps should be handled that way in the Action Agenda.

**Page 107. Invasive species – general.** In addition to the challenges listed, another barrier is that the various agencies have not created coordinated maps of many of the mapped invasive species infestations and there are gaps in map coverage. This is especially true for knotweed. This need should also be noted under A11.1.

## **MARINE AND NEARSHORE**

**Page 113. Nearshore habitat – general comment and logic chain.**

- This logic chain and thus this set of “B” strategies are missing a key piece: retrofits for existing built areas and existing damaged areas. The focus of these strategies is on restoring high priority locations or high priority processes, which is important, but what is missing is holding the line on more damage and reversing the damage. Admittedly, this is a challenging issue to tackle and it may take decades, but the Action Agenda should not ignore this arena. B1 assumes only environmental improvements when there is new development or significant re-development. This leaves a gap for existing areas. Examples could include incentives for homeowners (who are not in the process of doing a remodel or other project that would trigger SMA) to remove overwater coverage or tax benefits if homeowners rip out existing paved areas or plant native vegetation. Education (Bxx) is not adequate. Many of the Actions and near-term actions listed under B3 (priority restoration) would fall under our recommended new strategy. Then B3 could be better focused on priority restoration actions. Currently, these various strategies and actions appear to be comingled.
- The gap is not only for existing areas, but also for site specific compensatory mitigation for undeveloped areas. In our recent experiences with two Shoreline Master Programs (note: not marine areas) Kenmore and Bothell-- the difference between undeveloped areas with relatively intact riparian vegetation and retrofits for existing built areas and existing damaged areas are ignored and it is simply assumed that all shoreline areas are to be developed under regulations that address retrofits and existing damaged areas as if they are the only shoreline riparian areas remaining. The compensatory action for development is ignored in the regulations.

**Page 116. Shoreline protection – general comment.** The draft Action Agenda is missing a key need – upgrades and better regulation and implementation. Currently SMA regulations (and other regulations) are not adequate to provide the needed protection for Puget Sound. An action is needed that includes regulatory reform and upgrades rather than having this issue listed as an emerging issue at the end of the B3 strategy. If C1.1 (Implement and strengthen authorities and programs to prevent toxic chemicals from entering the Puget Sound environment) is listed as an action, then a similar regulatory-related action is appropriate here.

**Page 116. Shoreline planning assistance (B1.1).**

- There seems to be a disconnect between the near-term actions associated with this substrategy. The strategy is about a critical need – more assistance for the planners working on SMP, GMA, etc. This assistance should NOT come in the payment and hiring of consultants. A third party (with their own agenda) is introduced into the local planning process. Consultants “interpret” for the local planners what they believe Ecology requires and local citizens are left defenseless.
- The near-term action is about marine reserves – another important need. We recommend that a new substrategy be created that relates to marine reserves and that these near-term actions be placed there. In addition, more information about what Ecology, DNR and other agencies are doing to improve their respective programs would be helpful under ongoing programs (e.g., what has been done to enhance the conservation of areas recently designated as Aquatic Reserves).

**Page 116. B1.1 NTA2.**

- We are concerned about the use of Marine Spatial Planning to balance use conflict avoidance with necessary species recovery objectives. For example, voluntary bottomfish recovery zones in the San Juan Islands are less

successful than designed because they were sited in areas that had already been overfished. A workable system of marine protected areas will have to close certain existing areas that are popular for fishing because those are the areas with a high enough extant biomass and diversity to recovery fish populations within the reserve and export larvae and juveniles to repopulate open areas.

- Drift cell functions may be less relevant to the establishment of a system of marine protected areas than oceanographic patterns, undersea bathymetry, distributions of kelp and eelgrass, substrate type, existing populations, age structure and diversity of extant biota or water quality including dissolved oxygen and susceptibility to ocean acidification.

**Page 123. B1.2 NTA2.** This near term action includes: “A key deliverable for Ecology and local governments is to implement SMPs in a manner that validates achievement of no net loss of ecological function.” This “no net loss of ecological function” is the central key requirement of Shoreline Master Program updates. The Cumulative Impact Analysis (CIA) documents are supposed to determine if there will be a “no net loss”. The CIAs we have reviewed are very weak and essentially meaningless. What is needed is clear guidance and established performance measure(s) which should include a referenced time frame to validate “no net loss”. These should be established by Ecology immediately and thus should be part of this near-term action.

**Page 125. B2.2 NTA1** The new rule should take into account projected sea level rise and a risk assessment for existing built structures that will limit implementation as well as an exploration of alternatives and associated costs such as planned retreat from the shoreline where lot sizes allow.

**Page 136. B3.1 NTA1.** We recommend the Action Agenda support the continuance of the Nearshore Steering Committee and Implementation Team as a joint committee to oversee continued development of PSNERP projects in coordination with project local sponsors.

**Page 136. B3.1 NTA1.** DNR should work in coordination with local restoration proponents to facilitate the placement of clean dredged material at sites where beach nourishment or marsh creation needing clean dredged material exists, for example along the Burlington Northern Railroad grade, Jetty Island (Port of Everett), etc.

**Page 137. B3.2 NTAs 1 and 2.** This should be advertised in open-competitive RFPs to financial institutions, non-governmental organizations and consultants.

**Page 138. Marine debris removal (B3.3).**

- This substrategy appears to be misnamed. It is listed as “Implement priority marine restoration actions consistent with the Soundwide restoration priorities identified in B1.1” and the description, ongoing programs and near-term actions all relate to marine debris and creosote piling removal.
- Efforts should be made to replace creosote pilings nearby herring spawning beds given their sensitivity to PAHs. Incorporation of acute and chronic Herring bioassays developed by Ecology need to be made part of all refinery NPDES permits. These studies need to be established for daylight conditions given the impacts of UV enhanced toxicity.

**Page 139. Accelerate restoration projects on public lands where government can lead by example (B3.4).** We recommend that the Action Agenda should affirmatively endorse the restoration of the Deschutes Estuary on Capitol Campus to the State Capitol Campus Committee and the Department of Enterprise Services as the ultimate leading by example. All of the state natural resource agencies and the Capitol Lake Adaptive Management Plan Committee have already recommended restoration and significant scientific studies have indicated its feasibility. Attempts to reclaim the lake by dredging are disproportionately given credence because of a localization of the political conversation and opposition by affected local stakeholders. To continue to fail to address restoration of the Deschutes Estuary creates a perception of hypocrisy for the State and for the Puget Sound Partnership.

**Page 140. B3.4 NTA1.** State Parks has already identified and started implementing Puget Sound shoreline restoration on a number of Parks. Performance measure should require a reporting from State Parks on efforts begun almost 6 years ago and a proposal for completing the identified projects.

**Page 145. Improving Public Access to Puget Sound (B5.1).**

- The maps that have been produced to date showing current types and amounts of public access in the Sound should be mentioned in this strategy's text and should be compiled and put on the Partnership's wiki. Trust for Public Lands has had extensive analysis completed to map and evaluate public access across the entire Sound and this is available through their Puget Sound Greenprint. Ecology's Oil Spill response office commissioned the public access data to be developed for planning purposes but it serves well as a public access/recreation map too.
- A key next step would be to prioritize gaps and identify opportunities for increasing public access, based on those maps.
- In addition, the text is focused on public access to the marine shoreline but a similar need exists in freshwater lakes, creeks and rivers.
- A caveat should be included in the text that public access should occur in a way that does not cause environmental harm.
- We also recommend that we invest in the preservation and repair of public access and interpretive facilities throughout Puget Sound such as parks, nature centers, public fishing piers, ADA accessible trails, Washington Water Trails Association sites, etc. Underwriting free parking at public access sites should be considered so that access to Puget Sound shorelines does not become a luxury to those who can afford Discover Passes.
- One idea would be to, where appropriate, require that all state granted shoreline acquisition projects include a public access plan and allow funds to pay for those elements within existing grant programs that currently require those elements to be paid for by matching contributions.

**Page 145. Increase public access to the marine ecosystem (B5.2).** Here are some ideas to increase access:

- Require WSDOT to create static interpretive displays on Puget Sound Ecology, Threats and the Action Agenda including literature racks for printed copies of the Action Agenda and other appropriate educational materials and provide training to WSF staff to be able to incorporate Puget Sound ecological interpretation into their duties.
- Provide volunteer or agency staff interpreters to Amtrak routes that run along Puget Sound shorelines from Olympia to Tacoma, Seattle to Everett and Mount Vernon to Bellingham.
- Create programs to subsidize free or low cost admission to the Seattle Aquarium, Port Townsend Marine Science Center, Poulsbo Marine Science Center, Arthur D. Feiro Marine Lab, MAST Science Center in Redondo, Point Defiance Aquarium, Marine Life Center in Bellingham, Nisqually Reach Nature Center, Makah and Suquamish Museums and similar facilities where the public can connect with the Puget Sound marine environment. Many of these facilities as well as YMCA and some other religiously affiliated shoreline facilities have summer camp programs that include Puget Sound marine science curricula. Those programs should be supported by a competitive RFP for place based marine education and citizen science capacity building to provide more and deeper connections to Puget Sound youth.

**Page 149. Eelgrass (B6).** This section should also call out nutrient loading that leads to excessive phytoplankton growth as a fairly well known stressor on eelgrass and link eelgrass recovery target to nutrient reduction targets both Soundwide and in certain key oceanographic basins with high residence times or in the local plans with embayments known for poor flushing and blooms of ulvoids.

**Page 153. Species recovery (B7).** The draft Action Agenda continues the catch-22 of recovery plans. The Recovery Plans rely on the Action Agenda to make specific improvements and now the Action Agenda in turn states that the recovery plans

should be implemented. This is a challenge because the specific actions are therefore not articulated in either location – the Action Agenda or the Recovery Plan. The Southern Resident Killer Whale Recovery Plan, for example, does not include specific actions needed for recovery but instead relies on a research approach. Somewhere, somehow, the actual actions need to be articulated. If the Partnership feels that it is not possible for the Action Agenda to include these specifics, then the Action (B7) should be “NOAA will produce a Recovery Plan with specific articulated, measurable actions that will ensure recovery of x population.”

**Page 155. Target View: Pacific Herring.** This statement is vague: “Efforts to help the recovery of Cherry Point herring have been taken, but we have yet to see their population turn around.” Little other than stopping the fishery has been done which is evident from the second statement with which we agree, “More needs to be done to understand the causes of the decline.” If there are activities other than curtailment of the fishery, please add that in this section.

**Page 159. Marine invasive species (B8).** Same comment as for freshwater invasive species (Page 107).

**Page 160. Marine invasive species – ongoing programs (B8).** The list of ongoing programs should include the national NPDES permit for ballast water discharges and the current effort to improve this.

## **REDUCE AND CONTROL THE SOURCES OF POLLUTION TO PUGET SOUND**

**Page 168. Toxics reduction – near-term actions (C1.1).** Most of the near-term actions listed for this strategy are already planned to occur. Therefore, we recommend that they be shifted to “ongoing programs.” The monitoring near-term action should be removed from this strategy or a similar monitoring action should be included for all strategies in the Action Agenda.

**Page 168. Toxics reduction – needed near-term actions (C1.1).**

- A “change agenda” near-term action would be for Ecology or the Partnership to evaluate the results of the Toxics Loadings studies and develop a workplan for reducing the priority toxic chemicals.
- A second “change agenda” near-term action – and this would match the title of this action – would be to enact chemicals policy reform at the state level.

**Page 172. Missing action – reducing toxics from wastewater. Action C1.2** (Adopt and implement plans and control strategies to reduce toxic releases into the Puget Sound from air emissions.) is an excellent action. The Action Agenda is missing a parallel action for wastewater discharges, specifically industrial wastewater discharges. Although Actions C xx below addresses wastewater discharges, it would be clearer for the reader if a toxics-related action (parallel to C1.2) were included here (and included a soft reference to C xx below). It is appropriate that it be in this strategy (there are numerous other references to industrial wastewater pollution and hazardous wastes) and it is confusing that it is not.

**Page 175. Increase compliance with and enforcement of environmental laws, regulations, and permits (C1.5).** While we heartily agree with this action, this needs to be an action that applies to almost all strategies in the Action Agenda. Either it should be listed for each strategy or it should be one of the overarching Action Agenda strategies. It is confusing to only have this listed under C1.

**Page 184. Stormwater NPDES Permits (C2.2).** This ongoing program description should also include the goal (at the next permit cycle) to have full coverage of the Puget Sound basin and that the permits include improved watershed planning and coordination (two features which are not as strong as needed in the current draft permit).

**Page 185. Stormwater NPDES requirements – near-term action (C2.2).** We recommend that an additional near-term action be added: Pass legislation to ensure long-term stable funding for stormwater improvements. A bill for this purpose was supported by the Partnership in the last legislative session.

**Page 189. Local Pollution and Control Programs – ongoing programs (C2.4).** This paragraph could be significantly beefed up. This is an important need. For example, exterior building materials need to be addressed, including items such as roofing material, fencing materials, and surface coatings or paints.

**Page 198. Agriculture regulatory programs for pollution (C3.2).** Although ensuring compliance with regulations is a good start, the regulations themselves need to be strengthened. The action should be written to cover both regulatory improvements and compliance.

**Page 209. Wastewater.** The introductory text for this strategy does not include mention of industrial discharges.

**Page 214. Manage small onsite systems (C5.1).** Onsite septic systems have not been mapped in Puget Sound, nor has an inventory been prepared that shows the age of the systems. In order to better understand the pollution issue and manage the pollution, this step is needed (similar to watershed characterization).

**Page 221. Centralized wastewater systems (C6).** The number of facilities quoted is incorrect. There are 104 municipal sewage treatment facilities in the Puget Sound basin that discharge to surface waters. There are about 15 more that discharge to ground. There are a significant additional number of industrial facilities.

**Page 221. Industrial facilities (C6).** It is confusing and inappropriate that industrial wastewater facilities have been included in this strategy. They represent a significant load of pollution to Puget Sound and given that a number of other items (“mitigation that works,” “working waterfronts,” etc.) have been called out as specific strategies, it is surprising that a topic of this significance to Puget Sound is not similarly standing alone. In addition, the types of actions appropriate for industrial facilities differ in some key ways from those for municipal facilities.

**Page 224. Reducing sources to sewage treatment plants (C6.1).** As we have noted in previous comments, the federal pretreatment requirements are inadequate. These need to be updated and the state could do this for Puget Sound. Please include this as part of the action.

**Page 225. Combined sewer overflow (CSO) systems (C6.2).** CSOs are a major problem in specific locations and this should be noted in the text. CSOs have contributed and continue to contribute loads of toxic chemicals which accumulated in sediment near the outfalls at levels that exceed sediment management standards and which cause recontamination of expensive sediment cleanup sites. In addition to improving the text description, the action should include the compliance time-tables that EPA has set forth for the various jurisdictions.

**Page 226. Priority upgrade of wastewater facilities (C6.4).**

- This action calls for upgrades in urbanized and urbanizing areas. We recommend that this geographic descriptor be removed. The need for upgrades will be decided by the impact to the ecosystem (dissolved oxygen problems, for example) which may occur in some areas that are more rural (South Sound, for example).
- In addition, we recommend that the terminology be broadened beyond TMLDs in these sentences in order to allow Ecology to have more flexibility (our addition shown in all caps): “Ecology also is responsible for establishing Total Maximum Daily Loads (TMDLs) OR WATER QUALITY CLEANUP PLANS for impaired water bodies that are identified as not meeting state water quality standards”....” To support TMDL OR SIMILAR processes in Puget Sound, Ecology is carrying out a number of studies to determine how nitrogen from a variety of sources affects dissolved oxygen levels in South Puget Sound and other areas with low levels of dissolved oxygen.”

**Page 228. Reclaimed water (C6.6).** While we support the use of reclaimed water overall, we have a significant concern about the content of emerging chemicals, especially pharmaceuticals and personal care products, in the water. We recommend that the description of the action include this caveat by noting that the use of reclaimed water is to be promoted if it does not cause environmental harm. In addition, we recommend that the action include the recommendation that all reclaimed permits include the requirement for monitoring for these emerging chemicals.

**Page 237. Establish No Discharge Zone for Commercial and Recreational Vessels (C8.1).** We recommend that a potential near-term action be included because this will advance the path towards a No Discharge Zone in the Sound:

C8.1 NTA 3: Ecology will work with the Port of Seattle and the NW Cruise Ship Association to support a proposed amendment introduced by Friends of the Earth, People For Puget Sound and Puget Soundkeeper Alliance to the Cruise Ship MOU banning all cruise ship discharges in MOU waters.

**Page 250. Oil spills (C10).**

- The introduction fails to mention that the work group has not met since the establishment of priorities in May, 2011. Also, this section lacks an education component, which is vital in reducing spills and improving the speed of response. The workgroup is likely to meet in March – they have been waiting for the BP study to be released, but they could also be picking part of the rule process to weigh in on.
- The oil spill workgroup (and the Partnership's involvement in oil spills) is now set to expire in 2013. We recommend that the Action Agenda include text that indicates that this responsibility and structure should be made permanent.
- We recommend that the awkwardly written text in the sidebar entitled, “Local Strategies” be replaced with something along the lines of, “Both the San Juan and Strait ERNs expressed strong interest in their risk exposure to oil spills along the border with Canada. They have identified a variety of near term actions associated with the ability to respond to spills quickly. This is timely given the increasing volumes of tankers exporting “unconventional” tar sand oil from Canada through the endangered Southern Resident Killer Whales’ core area of their critical habitat. State and federal regulatory changes are underway associated with SB 1186 and the movement of the High Volume Port Line (HVPL) from Port Angeles to Cape Flattery in July 2012 requiring attention.”

**Page 251. Spill Prevention: Emphasize use of risk-based approaches to improve marine safety and protect our environment, economy and quality of life (C10.1).** The long awaited state of the art Vessel Traffic Risk Assessment for the Salish Sea required as part of the BP dock expansion will be released in March 2012. The two NTA’s identified in this section should both be directed in the context of utilizing that model to address the identified questions.

**Page 252. C10.1 LNTA 3.** It makes no sense for local jurisdictions to just focus on oil spill prevention efforts for the Forum when federal law is preemptive and there are a variety of spill response initiatives underway (SB 1186, HVPL).

**Page 253. Spill Readiness: (C10.2).** We do not see why there is a separate LNTA 1 as most of these actions apply to all areas. The bulleted list is also inconsistent in stating action. If the ideas are segregated for just the Strait (Makah, Liaison, response tugs) then the universal items should be listed as NTAs for the whole area. Also need to include the Vessel of Opportunity program for the whole region.

**Page 253 C10.2 LNTA 1:** We recommend that this near-term action (Makah Tribal Council Oil Pollution Initiative and Vessel of Opportunity Program) be divided into two items: Makah Tribal Council Oil Pollution Initiative and Vessel of Opportunity Oil Spill Program.

**Page 257. TMDLs (C11.1).** Unfortunately, Ecology has conducted few toxics-related TMDLs (and this continues as can be seen from the listing of planned TMDLs in these pages). These should be encouraged by the Partnership. In addition, it would be helpful if this text could include more information about TMDLs that remain to be done (at least the total number) based on the current 303d List.

**Page 259. Clean up contaminated sites within and near Puget Sound (C11.2).** Efforts also need to be made to adequately monitor formerly cleaned up superfund sites. For example, the former NW Transformer Inc. site along the Nooksack River could still be a source of the high PCB levels found in Cherry Point Herring.

**Page 260. Dredged material disposal sites (C11.2).** Dioxin is a major problem for the dredge management program. In the past, dioxin has not been analyzed in a number of projects resulting in dioxin-contaminated sediment being contributed to the Puget Sound disposal sites. We recommend that the text for this action describe the need for dioxin analysis for all disposed material.

**Page 265. Microplastics.** We object to the topic of plastic being relegated to an emerging issue. We have abundant evidence that plastics are a concern in Puget Sound and feel that plastics should be listed as a pollutant in one of the above strategies (likely stormwater).

## **STRATEGIC LEADERSHIP AND COLLABORATION**

**Page 275. Backbone support – statute mandated (D1.1).** It seems that other key functions that have been assigned to the Partnership, in addition to the Salmon Recovery Board, should be mentioned here such as the Oil Spill Crosspartnership Workgroup.

**Page 284. Monitoring Program – near-term action (D4.2).** The Partnership should also be responsible to ensure that adequate monitoring is occurring and that it is funded. These are key gaps. For example, the Partnership has set a target for EDCs in English sole. There should be a near-term action that addresses the needed funding for monitoring, especially for the targets.

**Page 289. Puget Sound Starts Here near-term action (D6.1).** To date, the Puget Sound Starts Here campaign has been limited to stormwater issues. This is not mentioned in the text and the campaign is being given significant prominence in the draft Action Agenda. Will it now be expanded to include additional Puget Sound issues?

## **HOW ARE LOCAL AREAS WORKING TO PROTECT AND RECOVER PUGET SOUND?**

**Page 301. General comments on local areas.**

- The LIOs or their surrogate convened groups should be identified either by name or affiliation and some history given as to where they came from, what process was used to convene them and how they became sanctioned by the Partnership to create local implementation plans or at least cross reference the section in the Action Agenda that does briefly describe LIO origins. A history of the decision to keep some 2009 Action Areas and segment others should also be given at the beginning of the local chapters as it is a significant change from the 2009 Action Agenda implementation structure. Was it a matter of practicality, taking advantage of natural alliances and planning energy that existed through other forums or simply a random phenomenon as it appears?
- Only the San Juan Action area mentions or acknowledges the importance of non-salmonid marine fishes and invertebrates which are both recreationally and ecologically important but also severely overfished and declining throughout most of their historic range. Each local chapter should include mention of status and trends of marine species from their action area, especially for historically abundant species or stocks which are now rare in order to contextualize habitat loss, overfishing and climatic cumulative effects on those living resources.

**Page 304. Hood Canal.**

- Identification of Hood Canal's natural oceanographic conditions leading to poor water quality should be described in the context of challenges to improving water quality or rationale for stricter nutrient loading standards, not just stated.
- The chapter mentions displacement of Olympic oysters with Pacific oysters but includes no statement about the effect on the ecosystem of the canal, especially interspecific competition that might prevent Olympia oyster recovery.
- IWMP acronym not spelled out or defined.
- SKIA acronym not spelled out or defined
- Organization of the chapter could be improved. HCCC, its role and membership should be foremost in the chapter with some documentation that there was an assertion from the PSP staff, Leadership Council or some other body in sanctifying the HCCC as the LIO. Section 1 of the main Action Agenda does this but a local perspective on why HCCC is the appropriate group to be the LIO would be welcome here as well. It would be more useful for there to be a glossary of acronyms used in the text than to have 3 pages of random agency and organization links. Links to key

partners with the LCCC in developing the local strategy should be highlighted, not that full list. The chapter lacks a sense of prioritization or basis in science as to what are the most pressing issues to address first, second and third. At the very least, a reference for the statistics given for the basin should be included. No explanation is given as to how the various stressors ranked as high or very high and no link between that ranking and any of the many listed activities.

- Hood Canal would receive special benefit from permanently protecting wildlands and headwaters on the Olympic Peninsula. Please see our comments on special designations which encourage the Partnership to support Congressman Norm Dicks and Senator Patty Murray's Wilderness and Wild & Scenic River designations.

#### **Page 316. Island County/Watershed**

- There is no explanation of why Island County is now a separate or relevant geographic subdivision of Puget Sound, differs from any oceanographic sub-basin distinction. Population increase projection is not referenced and out of context. What is the current population of the county?
- Geographic contexting of species and habitats jumps from around the island to "inside of the island" whatever that means, to the Whidbey Basin, which is a recognized oceanographic sub-basin of Puget Sound.
- If Port Susan Bay Marine Stewardship Area is important to mention, then so is the Smith/Minor Island Aquatic Reserve.

#### **Page 326. North Central/West Sound**

- With 44% of the land base in incorporated cities and urban growth areas, there is little chance of restoring hydrologic functions for aquatic invertebrates and therefore instream salmon populations without setting aside large part of these areas to remain undeveloped. Coupled with the statement that most residents prefer living outside these areas to have that "rural feel" and a rapidly growing population, this planning region seems destined for unplanned sprawl which would be devastating to Puget Sound's water quality and living resources.
- Reference to Central basin is confusing since this no longer has geographic relevance in this action agenda.
- Similar to Hood Canal Pacific Oyster, the statement of hatchery salmon to supplement tribal and recreational harvest comes with no balancing acknowledgement as to the potential harm those hatcheries are having on native stocks or wild Chinook recovery.
- Who is the North central/West Sound LIO? From which jurisdictions, tribes and organizations were they made up or is there a list of participating individuals that can be shown to have any expertise? Who invited membership and assembled the LIO?
- It is impossible for land cover changes to create no net loss of forest or hydrologic functions, no matter how many "performance goals" are established unless the land cover changes are back to native forest.
- While there was evidence of some prioritization within this LIO, there are still too many actions and no entity(ies) charged with doing them.

#### **Page 337. San Juans.**

- How can Kokanee be documented in marine waters? Are they not landlocked by definition?

#### **Page 346. Skagit.**

- No group has formed for this area and no new prioritization has taken place since 2008. Although salmon recovery strategy depends on Skagit delta restoration, no particular emphasis or acknowledgement of that is in this local chapter of the Action Agenda. While climate change is listed as a major threat, no actions to adapt to climate change are identified, specifically sea level rise which has the potential to wipe out many of the existing salt

marshes outboard of agricultural dikes as well as threaten the Skagit agricultural system and associated communities itself.

**Page 362. South Central.**

- Perhaps a reference to the soundwide accountability function of the Partnership staff would be appropriate, although the sheer number of actions would be difficult for Partnership staff to track unless the South Central LIO performed detailed self-reporting.
- The Maury Island Aquatic Reserve and the recent acquisition by King County of the gravel mine site are important conservation accomplishments for this action area and should be called out as part of the context, if not a notable accomplishment since 2009.

**Page 375. South Sound.**

- We recommend adding Yelm and unincorporated Thurston County to the rapid growth centers in South Puget Sound and attribute a great amount of that growth to Joint Base Lewis McChord staffing up for the wars in Iraq and Afghanistan.
- In the notable accomplishments box, Devil's head is part of the Key Peninsula, not Anderson Island.
- While not necessary to list in the notable accomplishments, even though it is one, is the designation of the Nisqually Reach Aquatic Reserve, the only such habitat protection strategy in South Sound and as significant to context the conservation portfolio of South Sound as are upland and watershed conservation areas like the Nisqually National Wildlife Refuge and Mount Rainier National Park.
- It should be noted that the history of the shellfish industry has shifted the ecological makeup of South Sound from one that was dominated by the native Olympia oyster to one of a mixed wild and non-native shellfish fauna that includes tended and escaped non-native species and unintended "piggyback" species such as Japanese oyster drills, Atlantic slipper limpets and Japanese eelgrass.
- Since spatially explicit actions were identified in this Action Area, that matrix should be available in this chapter as a link. Similar to South Central, the prioritized actions should be assigned and tracked for self-reporting by the LIO to the Partnership to allow an efficient oversight and accountability role.
- The loss of the Deschutes Estuary is one of the most significant alterations to historic conditions within the South Sound basin, especially now that the Nisqually estuary has been restored. Identifying Deschutes Estuary Restoration as a priority action should be included for this chapter.
- Public access should be increased in South Puget Sound. Specific projects include finding a long term funding solution to maintain Tolmie State Park, repair of the state-owned fishing pier at Nisqually Reach Nature Center (Luhr Beach), discontinue the requirement for Discovery Passes to access Puget Sound shoreline sites, assist in the integration of public access and education enhancements for the new Nisqually Reach Aquatic Reserve in DuPont and Anderson Island, support Aquatic Reserve educational materials and interpretation on weekend runs of Pierce County's Anderson/Ketron Island ferry.

**Page 381. Stilly/Snohomish.**

- This chapter includes a long list of activities which are still unprioritized.
- This area is similar enough to Whidbey Island/Watershed and Skagit outcomes that we don't understand why the Whidbey Basin Action Area needed to be separated into three groups.

**Page 396. Strait of Juan de Fuca.**

- Although prioritized and sequenced, the assignment of actions and accountability are not addressed.

- Designation of Protection Island Aquatic reserve should be acknowledged as a context for management if not a notable accomplishment.
- We recommend the creation of a network of marine reserves to recover rockfish species as identified in the state rockfish conservation and management plan and the Action Agenda more broadly. This is particularly necessary in this action area because of the diversity and viability of extant stocks of rockfish necessary to repopulate the rest of Puget Sound.
- Strait of Juan de Fuca would receive special benefit from permanently protecting wildlands and headwaters on the Olympic Peninsula. Please see our comments on special designations which encourage the Partnership to support Congressman Norm Dicks and Senator Patty Murray's Wilderness and Wild & Scenic River designations.

**Page 412. Whatcom/Nooksack**

- A notable accomplishment in this sub-basin is the reconnection of Lummi and Nooksack river floodplains and tidal marshes through the Smuggler's Slough project and significant restoration opportunities remain in the broader Nooksack delta which should be integrated with the Action Agenda floodplain strategy and the Marine and Nearshore restoration strategy.
- The Cherry Point Aquatic Reserve should be mentioned in a conservation context for this sub-basin as should significant nearshore upland reserves.
- All threats identified seem to be salmon-centric and do not acknowledge significant losses to nearshore habitat from the BNSF rail line or overharvest of marine species and the need to create marine reserves for the recovery of rockfish species. We recommend that this list be expanded.
- Significant potential exists to restore nearshore functions and public access through the Port of Bellingham waterfront redevelopment project and that should be called out as a priority opportunity relevant to this planning horizon with specific nearshore objectives for the redevelopment plan identified by the LIO as soon as possible.
- We are concerned that there is only one passing mention to the presence of the State's two largest refineries and a smelter along the Cherry Point reach or that its unique geomorphology allows for deep draft ships to come close to shore. This has led to increasing pressure to site a major coal terminal in this region which is likely to have major construction and operational impacts on marine life. We recommend that the text be expanded to give more detail about this issue.

**DRAFT BIENNIAL SCIENCE WORK PLAN FOR 2011-2013**

**General comments.**

- It is unclear as to WHO will be undertaking this scientific work.
- The list of priority science actions appears to be a mix of actions that are contained in the draft Action Agenda and those that are not. It also contains items that are being covered by the Regional Monitoring Steering Committee's work and not. This is confusing. We recommend that the document be re-structured into three sections:
  - Work that the Science Panel recommends the Puget Sound Coordinated Ecosystem Monitoring and Assessment Program take on
  - Action Agenda items (science-based) that the Science Panel endorses
  - Additional priority science actions
- This list is extensive and in no way could it all be accomplished in 2 years (Biennial Science Workplan). It would be desirable to pick out the items that are indeed highest priority and are key to being accomplished in the next two years. That is, the key items that would make a critical difference in the restoration of the health of Puget Sound.

- From our practical, on-the-ground policy work, we recommend that more basic questions be included in the list. This is because when implementing regulations (such as the Shoreline Management Programs) a large number of persons question the validity of the science behind the regulations. For example, we need more science (that is Puget Sound basin-specific studies) to show the impacts of shoreline armoring, overwater coverage, polluted runoff, etc. on the health of biota.
- The document has no mention of harvest or hatcheries. The priority science actions appear to be reactive to the Action Agenda and therefore the work plan is limited.
- The work plan, while identifying some interesting and important information needs, is a template for an infinite study of processes that we already know enough about to craft actions to remediate, restore and protect. Instead the science should be focused on establishing what is needed to realistically accomplish these objectives, and whether the actions we are taking are moving us in that direction. That means, for example: 1) a baseline of existing conditions (including hydrologic, geomorphic, riparian, and biologic functions), so that we know where we are starting from. The already completed Puget Sound Watershed Characterization is an excellent basis for this. 2) link the important functions to the watershed level functions, and the associated impairments, so that an understanding of specific restoration activities to the larger picture can be developed and used for prioritization. 3) monitor already completed restoration activities (for example the Hansen Creek restoration completed in Skagit County). 4) Evaluate and define performance standards can give us clear information with which to assess effectiveness of restoration and mitigation projects that are standardized and transferrable throughout Puget Sound. An emphasis should be evaluating and incorporating existing standards, like water quality standards and instream flows, that have a regulatory authority already associated with them.

**Summary general comment.** One does not come away from this document with a sense that the Science Panel has had the time to deliberate and come to a conclusion about THE most important science questions to be tackled in the next two years. It is confusing to read and seems to be a mixture of several different approaches and frameworks that are not neatly melded into one clear statement. The document does not transparently show the process – that is, what was the original list of science actions and how they were all placed in the prioritization scheme by the Science Panel.

**Page ii (Executive Summary).** Upland and Terrestrial Species and Food Webs. It seems that a key question is missing from this list: determining the cause of the pre-spawn mortality of coho salmon in freshwater creeks.

**Page iii (Executive Summary).** Wastewater. Another missing key question is the concentration level of pharmaceuticals and other emerging chemicals in reclaimed wastewater and therefore is in water used for irrigation or other uses and may end up in surface and groundwater supplies.

**Page 5. Analysis of Needs.** This section is an interesting section and contains many good recommendations of gaps and research needs. Oddly, these recommendations do not seem to be reflected in the priority science actions listed in the Executive Summary. There seems to be a disconnect, as if two different processes were used. The summary section of the document does not clarify if all of this analysis was dropped.

**Page 21. Nutrients.** The description of nutrient impacts seems to be solely focused on Hood Canal. We recommend that a 2<sup>nd</sup> paragraph be included which addresses nutrient problems in South Sound and other areas of the Sound (which is a different regime with different dynamics than Hood Canal). This would be in addition to the mention on page 24.

## Attachment 2: Example Simple Logic Chains



