F. Regional Information Instruction Form

This form is provided to regional participants from the management agencies, to guide them in assembling information for the HSRG's regional briefing book.

Purpose

This document provides information to the co-managers regarding the Hatchery Reform Project and the Regional Review Process. This document asks the co-managers questions about hatchery-related regional issues. Replies to these questions will be compiled in a briefing book. This book will enable the scientists participating in the Hatchery Reform Project to make recommendations for hatchery facilities and programs within Washington's Puget Sound and coastal regions.

Benefits

The managers will receive as a result of this review of the hatchery system: 1) independent appraisal of the regional hatcheries; 2) documentation of their existing and potential benefits to both salmonid conservation and sustainable fisheries; 3) documentation and tools for evaluating potential risks of hatchery programs; and 4) recommendations for improvement. These will be in the form of a written report. Implementation of these recommendations will be made possible through Washington state and US Congressional legislative appropriations and private sector resources. To date, Congress has provided $12.6 million for this effort.

The regional review process involves the following steps:

1. Managers identify regional and other agency support staff to participate in regional review. The facilitation team creates and maintains a regional participant contact list.
2. Managers and others (such as funding entities) meet with the HSRG and the facilitation team to introduce the regional review process and to discuss issues and concerns specific to this region.
3. Managers receive this form; other interested parties receive the HSRG Key Questions form.
4. Agency staff meet internally and with other regional participants to discuss the best method to assemble the information requested on this form.
5. Managers submit the requested information to the facilitation team who compile it into the Regional Briefing Book.
6. The facilitation team visits and photographs the region and its facilities prior to the regional review.
7. The facilitation team works with regional participants to design a regional tour for the beginning of the regional review.
8. HSRG and facilitation team tour the region's hatchery and other relevant sites, meeting with managers along the way. This regional tour is first day or more of the review.
9. Managers meet with the HSRG to discuss the regional habitat and goals as they relate to hatchery programs. This is primarily to clarify information and gather new data as needed.

10. The HSRG finishes their review and gives regional managers their preliminary recommendations verbally in an informal meeting (last day of the schedule review).
11. Regional managers meet to consider the HSRG's preliminary recommendations and provide feedback prior to the report writing process.
12. HSRG drafts its report to include recommendations for all regions reviewed.
13. The draft report is provided to the management agencies to allow them an opportunity to include a response to each set of recommendations, including their implementation plans.
14. Regional review report is provided to the managers, US Congress, Washington state legislature and other appropriate parties.
15. Available funding is prioritized for implementation of recommendations.

Regional Information Briefing Book – What We Need From You

The HSRG feels it is essential to receive answers to their questions from the regional managers and staff that are most familiar with the region and its hatchery system. Your peers have identified you as a regional expert. The HSRG requests your written responses to the questions on this form for a Regional Briefing Book. We encourage working together to avoid duplication of efforts and use existing documents such as HGMPs, planning documents, etc. as source material (cut and paste as needed). The HSRG recognizes that some information may be incomplete, anecdotal, or not well documented – *it is still important and should be included***.** If you have little or no information for a particular question, please give the information you do have. The HSRG may recognize a lack of information, and the corresponding need to learn more as a part of their recommendations.

This Regional Briefing Book will be provided to the HSRG and regional participants *in advance* of the review for your region. You will be provided with due dates and information on where to send the material. Please provide the information as soft copy in Microsoft Word or Rich Text Format with author(s), affiliation(s), sources, and date noted. You will also be requested to meet with the HSRG to participate in the review.

The HSRG is requesting information on:

A. Habitat
B. Salmon and steelhead stock status – both hatchery and wild
C. Management goals for harvest, conservation and other priorities
D. Current hatchery programs.

The HSRG and regional managers will work with you to divide natural and artificially propagated anadromous salmonids into appropriate individual stocks. The grouping should reflect management units. The HSRG will provide their evaluations and recommendations based on the stock management goals provided by this same grouping.

Questions: WDFW or NWIFC hatchery reform staff members or the facilitation team staff (Kathleen Hopper at 206-382-9555 ext. 24, Michael Kern at 206-382-9555 ext. 25, or Michael Schmidt at 206-382-9555 ext. 26) can be contacted for more information.

A. General Description of the Region

This description is a general overview of the region for the members of the HSRG who are unfamiliar with your area. Use existing material if it is available (such as Watershed Lead Entity documents).

Provide a general narrative description of the regional landscape. This description should include, if available: watershed topography, rivers and significant tributaries, land ownership, and land use. Feel free to use maps. We ask that this description be as concise as possible.

B. Status of the Habitat by Stock

Appropriate habitat or other agency policy staff should answer the following questions for each hatchery and naturally spawning stock:

1. Please fill out the table below for each stock using the general definitions provided:

Stock Name:

	Spawning Habitat		***Freshwater Rearing Habitat***		***Migration Habitat***		***Estuarine Habitat***
	Hatchery	***Wild***	***Hatchery***	***Wild***	***Hatchery***	***Wild***	
Rating (H/M/L)							

Three categories of habitat are defined in terms of conditions that support the target stocks, with the assumption that these conditions would also provide for the needs of other native stocks of salmonids (assume that pre-terminal harvest is part of the environment during the fish's whole life cycle).

These habitat ratings are:

a. *High (H) = Healthy: Productivity of the target stocks is high and the population is capable of growth and supporting significant terminal harvest.*
b. *Medium (M) = Limiting: The target stocks is productive enough for the population to sustain itself at a low level terminal harvest.*
c. *Low (L) = Inadequate: The target stocks is unproductive and the population will go extinct, even without terminal harvest.*

2. Are there exceptions or "islands" of habitat that are in better or worse condition and do not correspond with the rating given in question?

3. What habitat improvement projects could elevate the rating for this sub-region or the "islands" of inferior production? If so, please list them and indicate if they are in the proposed or planning stages.

4. Do you see the quality of the habitat in this region become better or worse in the next ten to twelve years? Fifty years? What are the long-term goals for habitat in this sub-region?

5. What other habitat information should the HSRG consider (for example, salmonid or non-salmonid stocks not native to the watershed)? Please describe.

C. Status of the Salmonid Stocks

Appropriate management or other agency policy staff should answer the following questions for each hatchery and naturally spawning stock:

I. Trends
Please answer the following for each stock.

1. *Fill out a table as completely as possible that resembles the template below. We will generate a general trend for this stock with this information.*

Fill Out This Template			
Year	Survival	Catch	Escapement
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2. *What is the age class structure of this stock (by sex) and do historical data exist on potential changes over time? For example, five year-old adults may have constituted 20% of returning adults 30 years ago, but those fish may now be rare.*

3. *Do you know if hatchery origin fish comprise a portion of natural spawning fish? If so, please give your estimation of the number of hatchery spawners and a timeline. These numbers can be estimated through escapement or carcass counts.*

4. *For hatchery stocks - what proportion of hatchery eggs, fry or adults are from wild fish or another hatchery?*

5. *Is this stock a coded wire tag index stock? If not, which index stock is it most closely aligned with? Provide any additional relevant information from previous coded wire tag groups.*

II. Biological Significance

Please answer the following for each stock:

1. *Within each watershed, what is the history of introductions (e.g. stock transfers), hatchery fish releases, and hatchery fish strays from other watersheds?*
    a. *Are naturally spawning populations considered "native" with little or no history of stock transfers, introductions, or artificial propagation within the watershed? or*
    b. *Have little or no stock transfers occurred, but the species has been artificially propagated within the watershed to some extent (how extensive has artificial propagation been?)? or*
    c. *Have significant stock transfers into the watershed occurred historically, with the potential for significant interbreeding between native and introduced fish? or*
    d. *Was the species extirpated from the watershed historically, but stock introductions reestablished the species within the watershed? or*
    e. *Is the species not native to the watershed, but currently exists as a naturalized population resulting from past stock transfers?*

2. *Biological Attributes - Does the stock exhibit any unique or distinctive biological attributes within the watershed with respect to life history characteristics (e.g. age/size at maturity, run timing, freshwater migration distance, morphology, physiology, disease resistance, genetics, etc.?) Use the following questions to guide your answer:*
    a. *Are the distinctive traits potentially irreplaceable or not typical of other stocks within the same GDU? Or*
    b. *Does the stock have no unique, biological attributes but share some unique attributes with other stocks in the same GDU? Or*
    c. *Are all known biological attributes shared with other GDUs?*

3. *Population Subdivisions - How diverse is the metapopulation structure within the watershed? Use the following questions to guide your answer:*
    a. *How many distinct spawning aggregations (e.g., tributary creeks) exist within the stock under consideration?*
    b. *What genetic data exist for this stock? Please provide agency reports or publication citations that contain these data, or provide summary tables of population allele frequencies if such reports or publications do not exist.*
    c. *What is the total number of stocks within the same GDU as the stock under consideration?*
    d. *What it the mean and range of viabilities (i.e. status) of the other stocks within the same GDU?*

D. Co-Manager Goals for Salmonid Stocks

Appropriate management or other agency policy staff should answer the following questions for each hatchery and naturally spawning stock:

1. *For each hatchery stock program, is the program goal conservation, harvest or both?*

2. *Please list your harvest management goals for each of the following time frames: present day, short-term (10 years in the future) and long-term (50 years in the future.)* Use the following definitions for harvest goals:
   High – harvest opportunity each year, spread over seasons
   Medium – opportunity most years, for some seasons
   Low – occasional opportunity, single run
   0 – no harvest opportunity

Goals	Present	Short-Term	Long-Term
Harvest Opportunity			

3. *What are your conservation goals? The answer to this question is typically qualitative. The answer should include local as well as regional (i.e., ESU) and/or statewide goals for each stock.*

4. *For hatchery programs, please summarize the production goals:*
   a. *How many fish at what size are planned for release? Transferred off-station?*
   b. *Where are eggs taken and incubated? Where are fish reared and released?*
   c. *Does this program stay relatively constant or does it change regularly? If it changes, what is the process for this change?*
   d. *Is the duration of this program clearly defined?*

5. *Are there other goals for this stock that are important to the co-managers? Some examples include: use of a stock as an indicator for survival or fishery contribution, cultural importance to tribal members, educational programs, mitigation for lost habitat or access to spawning area, scientific research, etc.*

6. *Do you have a monitoring and evaluation program that is adequate to determine if the goals are being met? If so, please describe.*

7. *Are the current goals being achieved? What are the levels of achievements being realized for each of these goals?*

8. *Is there a conflict between the present goals based upon current management practices or habitat conditions? If so, what adjustments or suggestions do you recommend (example: hatchery coho production vs. natural chum production)?*

9. *Are regional decisions based upon adaptive management? How do you incorporate new information to adjust existing programs and goals?*

E. Current Regional Hatchery Programs

Appropriate hatchery or hatchery support staff should answer these questions with regard to current hatchery programs.

The first set of questions deals with the general features of each hatchery facility that could affect all stocks and activities on station. There should be one set of answers per facility. (Questions 1 through 9, 20)

The second set of questions is for each stock that you rear or handle on site. (Questions 10 through 19) You can "lump" stocks if the same answer applies. For example, if all your eggs on site are incubated in a similar manner, state that the answer will, **"Apply To All Stocks**."

For hatchery stocks that are reared and/or transferred between sites, provide a summary set of answers for that stock, rather than splitting up the answers between facilities (include a chart or other graphic to express what stage of culture takes place at what site). If a stock released at your site is reared for part of the time outside of the region, please include this same information for that facility.

One answer per facility – questions 1-9

1. *Describe the property location and ownership. Give the funding and operating organization names, approximate size of the property (acres), number of buildings, any unique attributes of the site worth noting.*

2. *What is the primary goal of the facility? (Examples: conservation of Shirley creek summer chum because of degraded habitat, harvest augmentation of Michael River coho salmon primarily for north Puget Sound commercial fisheries, community education)*

3. *What stocks of fish are handled and/or reared at this facility?*

4. *Describe the water supply, including the following components:*
    a. *Each water source: Available flow – stable, increasing, decreasing? Spring, well, surface? Normal year's temperature regime? Pumped or gravity flow? Water chemistry profile, if available?*
    b. *If surface water, is it fish- or specific-pathogen free? Do you experience problems with "dirty water" that limits your ability to reach your goals?*
    c. *Surface water intake structures on station – are they screened or sited in a way that excludes fish or other animals from entering the water supply?*
    d. *If you use surface water, is there adequate water in the by-pass reach throughout the year?*
    e. *Are there unique physical characteristics of the water supply on site or nearby that you feel should be noted?*

5. *Describe the fish health/pathogen history, including the following components:*
    a. *How often does a fish health professional visit your site?*

   b. *What is the most significant fish health problem at your facility (this could be a fish pathogen, inability to correct a situation, poor water, etc.)?*
   c. *Have you had any significant epizootics on your facility? Please explain. Were you able to isolate the affected containers? Sanitize the effluent?*
   d. *Do you have a history of viral isolations at your facility in the past five years? This excludes epizootics as described above.*
   e. *Do you disinfect equipment between rearing units or banks of ponds? What method do you use?*
   f. *Are you able to keep distinct lots or stocks of fish physically separated? Please answer for each of these life stages – adults, eggs, and juveniles.*

6. *Describe the waste removal/pollution abatement system including the following components:*
   a. *What is the general frequency of pond cleaning?*
   b. *How is pond waste disposed of (vacuum, brush, dry and remove, etc.)?*
   c. *Describe pollution abatement pond or settling pond, if one exists.*
   d. *Status of permits for discharging pollutants?*
   e. *Any particular challenges you would like to share on this subject?*

7. *Other general questions:*
   a. *What are your predator control methods/facilities (nets, wires, etc)? Do you have unresolved predator problems?*
   b. *Describe how you inventory your fish (frequency, size of weight sample, etc.).*
   c. *How do you keep your inventory and other data? (Hatpro, spreadsheets of your own, agency forms, etc.)*
   d. *How do you decide which food to use (mandatory contract, fish health recommendations, etc.)?*
   e. *How do you store your feed?*
   f. *Does your facility have any habitat improvements on site (wetlands, riparian improvements, etc.)?*

8. *Education – please give details regarding the following:*
   a. *Is your facility open to the public?*
   b. *Do you have signs, pamphlets, or other materials for the public to self-tour?*
   c. *Do hatchery staff or others schedule and conduct tours of the facility?*
   d. *Are there citizen involvement opportunities such as volunteer programs, student interns, etc?*
   e. *Are hatchery operations visible to facility visitors?*
   f. *Do other fish and wildlife programs use the facility?*
   g. *Do you have regular involvement with community or school groups?*
   h. *Do you give fish or eggs to educational groups? If so, please estimate the amount of time this activity takes.*

9. *General Administration*
   a. *Does key staff have a good understanding of the facility goals, budget, and expenditures? If not, what tools do you need for correcting this?*

b. *Is new relevant information from research and other sources made available to hatchery staff and used for attaining goals?*

c. *As fish culture and other related scientific understanding evolves, are you able to make changes to your programs? If not, what ideas do you have for changing this?*

d. *Are there state or federal laws that constrain the program, such as numbers and size of smolts produced?*

One answer per hatchery stock (Questions 10-19) .The production goals for these stocks are summarized under "Co-Manager Goals for Salmonid Stocks", question 4.

10. *Describe the broodstock as follows: (These may be a repeat of some questions asked under stock status - you may refer to those answers or cut and paste.)*
    a. *How was the broodstock chosen?*
    b. *Do you consider it an integrated (goal is to maintain a single gene pool and prevent divergence) or segregated (isolated in the hatchery ,managed to restrict gene flow) population?*
    c. *Does this broodstock have a history of reportable pathogens?*
    d. *Are you are able to collect representative samples each year of the population, with respect to size, age, sex ratio, and run and spawn timing? If not, please explain the limitation.*
    e. *What has your run size been for the last five years?*
    f. *What is the sex ratio at spawning?*
    g. *Do you have any information on the sex ratio by age? If so, please provide.*

11. *Describe the broodstock collection process, including the following components. Differentiate by Natural Origin Recruit (NOR) and Hatchery Origin Recruit (HOR) if they are collected in a different manner:*
    a. *Describe/give the location of adult collection relative to the physical plant where fish are held or spawned?*
    b. *Describe how fish are collected (ladder, sorter, trap, in river, etc.)*
    c. *Do you have the ability to handle or sort individual fish? If so, please describe your process.*
    d. *If you transport adults from one site to another, describe method of transport. Have you had problems with mortality from handling because of this?*
    e. *If the fish enter the adult holding structure on their own, describe the process for handling and counting. Include details on how and when you pass fish upstream, and about your ability to do so.*
    f. *In what type of container do you hold these adults? Is it covered? Do you use overhead sprinklers? Do you have a problem with predation?*
    g. *Which water supply is used for this purpose?*
    h. *Are you able to hold these fish within recommended guidelines for temperature, water flow, and density?*

i. *Do you have adequate security?*
j. *How do you deal with numbers of fish in excess of your egg take needs? Do you feel you have the tools you need for this?*

12. *Please describe how you handle adults:*
    a. *What is the method for choosing and mating your broodstock (include how many adults of each sex are used per mating)?*
        1. *What are the spawner selection protocols (e.g. random, size, ripeness, wild or hatchery origin?)?*
        2. *Record how the gametes are handled (pooling of milt and/or eggs? If so, how?). What is the mating scheme (e.g. 1:1, factorial, multiple pooling?)*
    b. *Do you use anesthesia?*
    c. *Describe the pathogen-sampling regime.*
    d. *Describe mark sampling program, if any.*
    e. *Is there any other biological sampling done on adults?*
    f. *How do you dispose of spawning waste?*
    g. *How do you dispose of pre-spawning mortalities?*
    h. *How do you dispose of spawned adults?*

13. *Please describe your method for putting down green eggs:*
    a. *Do you have adequate "clean" and "dirty" areas for handling eggs?*
    b. *Describe your water hardening procedure.*
    c. *Describe your green egg enumeration process.*
    d. *Where are these eggs incubated (What type of incubator, water supply used)?*
    e. *Do you incubate in single-family units? If you had the capacity, would that be desirable?*
    f. *How many eggs per incubation unit?*
    g. *What is the typical flow used?*

14. *Please describe your methods for handling and putting down eyed eggs:*
    a. *How do you monitor egg development? (Temperature units, visual check, fish pathologist check, etc.)*
    b. *Have you had any chronic (or difficult to control) losses of eggs to the eyed stage? If so, please explain.*
    c. *How do you dispose of dead eggs?*
    d. *Do you disinfect eyed eggs prior to putting down to hatch?*
    e. *What type of container do you use for hatching?*
    f. *Do you use any type of substrate?*
    g. *What is your loading density? (eggs per unit)*

15. *Other incubation questions:*
    a. *Is your water temperature regime similar to that in the natural environment?*
    b. *Are eggs incubated under environmental conditions that tend to maximize individual fitness of fry? (e.g. allow volitional ponding of fry, incubate under environmental conditions that simulate the natural rearing environment)*

c. *Do you heat or cool your water during incubation? If so, please explain what you do and the purpose of the temperature manipulation.*
d. *Do you cull eggs during incubation for any purpose? (ELISA results, spawn timing, etc.)*
e. *Are excess eggs/fry culled randomly when necessary?*
f. *How do you deal with eggs in excess of your egg take needs?*
g. *Do fry have the ability to emerge volitionally?*
h. *If you have to remove fry from rearing units, how do you determine appropriate stage of development (Temperature units, visual check, pathologist check, etc.)?*

16. *Rearing conditions:*
    a. *Explain what type of container this stock is rearing in from first ponding to release (size and types of each kind of rearing unit).*
    b. *What water supply is used for rearing this stock (from first ponding to release)?*
    c. *Are the rearing units covered?*
    d. *Do you attempt to provide any type of "natural rearing" for this stock (cover, substrate, food, etc.)? Please describe.*
    e. *How do you decide which fish to combine in a rearing unit (individual families, results of ELISA, size of fish, etc.)?*
    f. *What do you use for keeping fish within recommended density and/or poundage targets (Flow Index, Density Index, pounds/gallon/minute, etc.)?*
    g. *Are you typically able to stay at or below this guideline? If not, what are your limiting factors?*
    h. *Are fish produced similar to natural fish in size, growth rate, morphology, behavior physiological status, health, etc.?*

17. *Stock-specific fish health questions*
    a. *Do you use any prophylactic treatments? If so, describe drug/chemical used, targeted pathogen, life stage treated, and method of delivery.*
    b. *Do you vaccinate this stock? If so, for what pathogen and with what vaccine?*
    c. *Are you able to remove and enumerate mortalities easily? If not, what are your limitations?*
    d. *Is this stock sampled for pathogens at spawning?*
    e. *Do you or your fish health specialist perform any fish health assessments on this stock? If so, what sort and at what frequency?*
    f. *What is your most challenging fish health problem with this stock? If you could, what would you do to resolve the problem?*

18. *Marking*
    a. *Is this stock marked or tagged in any way prior to release? Please describe (numbers, replications, quality control).*
    b. *What is the purpose of this mark or tag?*
    c. *How many years has it been identified in this way?*
    d. *Are there historic marks or tags we should know about?*
    e. *Please provide all tag recovery information for this program.*

19. *Release/transfer of fish*
    a. *How is time of release decided?*
    b. *How do you measure the size of fish at release (fish per pound, average length, other)?*
    c. *What is the typical size range in millimeters of these fish at release? If you do not know the size range, what is average weight?*
    d. *What other smolt quality monitoring do you perform, if any (fish pathologist checks, on-going research projects, smoltification indicators, etc.)?*
    e. *Are fish released with adequate imprinting to facility or desired stream reach?*
    f. *Describe your on-station release procedure for this stock (volitional vs. forced, time of day, typical date, length of time of release, etc.).*
    g. *If you truck this stock off station, where do they go (acclimation pond, stream plant, transfer to another facility, etc.)?*
    h. *Are you or others able to monitor the fish after they enter the river (snorkeling, smolt trapping downstream, etc.)?*
    i. *Do you have any idea if these fish have interactions with other salmonids in the receiving environment? If so, what do you know?*

20. *Migration of returning adults*
    a. *Is the straying of hatchery fish into the wild controlled?*
    b. *Is the attraction of wild fish into the hatchery minimized?*

One answer per facility – question 2

21. *Wish list and other comments*
    a. *What is the most-needed piece or pieces of equipment for your facility and why?*
    b. *What capital improvements are most needed at your facility and why?*
    c. *What do you think would be the most valuable use of your facility?*
    d. *Is there anything else that we have not covered that you would like to add?*

THANK YOU