Alaska Sustainable Salmon Fund (AKSSF)
2008 Framework for Westward Region

GOAL 1 – HABITAT **Protect and restore freshwater, estuarine, and marine salmon and steelhead habitats to maintain resource productivity.**		
Objective 1A. Identify, protect, and manage spawning, rearing, incubation, overwintering, and migration habitats to mitigate or prevent human-induced perturbations beyond the bounds of natural variation.		
Information Need/Actions	**Priority**	**Comments / Context**
(1A-1 - WW) Quantify flow requirements for life stages of salmon and steelhead and secure reservations of water on important salmon- and steelhead-producing systems.		Longer-term need for Westward. Need baseline data about water quantity before ready to secure water reservations. (See information need/action 1A-5, below, regarding baseline water quantity information).
(1A-2 - WW) Catalog anadromous water bodies.		Longer-term need for Westward region. Cataloguing anadromous waters provides important statutory protection for these waters. However, cataloguing would be preceded by habitat assessment, addressed in 1A-3 below.
(1A-3 - WW) Identify and analyze location and patterns of important spawning, incubation, rearing, overwintering, and migration habitat, including site-specific habitat characteristics (e.g., vegetation, substrate, hydrology/hydraulics, water quality).	High – include in 2008 Call	Basic habitat assessment is essential precursor to all other Goal 1 work. Identification of important habitat will enable development and application of habitat-based methods for escapement goal analysis to estimate Maximum Sustained Yield (MSY). In Westward region, escapement goals (EG) were established for 53 stocks (or stock aggregates) during the recent Alaska Board of Fisheries (BOF) cycle; only 10 EGs were based on estimates of MSY due to lack of data. Habitat-based methods could address this issue.
(1A-4 - WW) Evaluate the individual and cumulative effects of human activities on salmon and steelhead habitat and on the beneficial uses of salmon and steelhead.		

GOAL 1 – HABITAT (Continued)		
Objective 1A - Continued		
Information Need/Actions	**Priority**	**Comments / Context**
(1A-5 - WW) Establish baselines for water quality and quantity.	High	This is an important precursor to 1A-1, securing water reservations.
(1A-6 - WW) Monitor development projects or activities to ensure protection of salmon and steelhead habitat.	High	There is no ADF&G Habitat Division staff based in the Westward region (Kodiak); region is served out of Anchorage. Suggest that projects under this information need/action be coordinated with ADF&G staff located in the region; consider seasonal staff located in Kodiak to conduct monitoring.

Objective 1B. Restore and protect habitat and fish passage that has been degraded by human activity.

Strategic Focus for Westward Alaska, for Objective 1B.

The following will be considered in evaluating the strategic importance of projects proposed under Objective 1B:

- Project cost relative to resource benefit. ("Resource benefit" includes consideration of the degree to which the habitat has been deleteriously altered and the potential benefits relative to increasing salmon production that might be realized if the habitat is restored.)
- Project would provide a public education / outreach benefit.
- Project capitalizes on an opportunity (e.g., road reconstruction provides opportunity for culvert replacement).

For information need/action 1B-2, it is most appropriate to use AKSSF funding for lower cost restoration projects and/or to leverage other funding sources to accomplish larger, more expensive projects.

Information Need/Actions	Priority	Comments / Context
(1B-1 - WW) Identify, assess, prioritize, and plan for restoration and maintenance of fish passage (e.g., culverts, fish ladders) and riparian, spawning and rearing habitats that have been degraded by human activity.	High	Extensive road construction conducted by the U.S. Military in the region; often did not provide adequate fish passage for both adult and juvenile life stages. Culverts/bridges have also collapsed. ADF&G Region 5 has done a culvert assessment and prioritization for State roads on Kodiak. There are also historic fish ladders (Kodiak, Afognak) that must be maintained if fish passage and production in these systems is to be maintained. State is generally not funding fish ladder maintenance.

GOAL 1 – HABITAT (Continued)		
Objective 1B - Continued		
Information Need/Actions	**Priority**	**Comments / Context**
(1B-2 - WW) Restore fish passage (e.g., culverts, fish ladders) and riparian, spawning and rearing habitats that have been degraded by human activity. The restoration project must include monitoring (commensurate to the project scale) that documents the project has been implemented as planned (e.g., built as designed, revegetated as planned, etc).	High	
(1B-3 – WW) Review and analyze the effectiveness of mitigation / restoration projects to continue to improve mitigation / restoration techniques.		Important; but no ADF&G Habitat Biologist available in region to do this work. Would need to indicate how this information need/action could be staffed in Westward region.

Objective 1C. Detect and predict short- and long-term changes in environmental conditions, and how these changes affect salmon and steelhead distribution and productivity.		
Information Need/Actions	**Priority**	**Comments / Context**
(1C-1 – WW) Evaluate ocean, freshwater, and estuarine conditions and cycles that affect salmon and steelhead productivity.		
(1C-2 WW) Detect and evaluate effects of climate change on salmon and steelhead habitat and distribution.		

GOAL 2 – STOCK ASSESSMENT
Collect information needed to sustain high potential productivity of wild salmon and steelhead stocks.

Objective 2A. Assess salmon and steelhead escapements and productivity. Evaluate escapement goal approach and the biological goal ranges to achieve sustained yield.

Strategic Focus for Westward region, for Objective 2A.
Projects proposed under Objective 2A will be judged to be of higher strategic importance in the Westward region if they address one or more of the following strategic priorities:

- Obtain credible escapement estimates for poorly assessed stocks.
- Evaluate stocks that have declined in abundance.

In FFY 2008, priority stocks that are poorly assessed and/or declining in abundance include:

- Ayakulik sockeye and Chinook
- Chignik sockeye and Chinook
- Karluk Chinook
- Akalura Lake sockeye
- Sturgeon River chum
- Uganik Lake sockeye

Information Need/Actions	Priority	Comments / Context
(2A-1 - WW) Obtain reliable temporal/spatial estimates of escapements by age/sex/length for highly-utilized stocks.	High – include in 2008 Call	Obtaining reliable temporal/spatial estimates of salmon escapements by age/sex/length (ASL) is a very high priority. Escapement monitoring is a fundamental data need for sustainable salmon populations. Significant escapement monitoring shortfalls within the Westward Region have been identified during recent BOF EG reviews. This will enable development of stock-recruit based methods of EG analysis to estimate MSY. Temporally-stratified ASL estimates for coho and other stocks will allow for development of models to more precisely estimate potential productivity. Funding for this work has been lost over time; data from key weirs has been lost due to lack of funds.
(2A-2 - WW) Develop data analyses, databases, or models for establishing escapement goals.	High – include 2008 Call	

GOAL 2 – STOCK ASSESSMENT (Continued)		
Objective 2A - Continued		
Information Need/Actions	**Priority**	**Comments / Context**
(2A-3 - WW) Develop, evaluate, and implement methods to estimate escapement, including evaluating existing escapement estimates and developing cost-effective technologies to estimate a larger proportion of total escapements.		
(2A-4 - WW) Estimate freshwater juvenile salmon production for highly-utilized stocks.	High – include in 2008 Call	Developing and implementing methods to estimate freshwater salmon production is a high priority, to determine cause of recent production shortfalls of several sockeye and Chinook salmon stocks of major importance, three of which have EG's based on estimates of MSY. Also need to correlate with escapements to augment accuracy of annual run strength forecasting and refine stock-recruit EG analyses. Top priority for 2008 since freshwater production dynamics are unknown for all but one of the region's significantly utilized, but currently depressed, salmon stocks. The region is currently studying freshwater production for Afognak Lake sockeye. Priority stocks to address are listed in the "Strategic Focus" statement, above.
(2A-6 – WW) Collect and evaluate data regarding harvest by stock by brood year for wild stocks.		

Objective 2B. Identify and catalog stock aggregations and meta-populations.		
Information Need/Actions	**Priority**	**Comments / Context**
(2B-1 – WW) Collect additional genetic baseline material to fill in gaps in Westward baseline data. (Proposer must demonstrate through consultation with the agency genetics labs gap in baseline data exists.)	High – include in 2008 Call	Collecting baseline genetic data is important in Westward to be able to define stocks or management units.

GOAL 3 – SALMON MANAGEMENT SYSTEMS **Improve and maintain effective and biologically sound management systems to regulate human activities that affect salmon and steelhead.**		
Objective 3A. Implement management systems for wild and enhanced fish production to achieve cultural, social, and/or economic benefits within acceptable biological limits.		
Information Need/Actions	**Priority**	**Comments / Context**
(3A-1 - WW) Evaluate the effect of management actions on cultural, social, and/or economic benefits.	High	In Westward region, there are currently several depressed salmon stocks where continued shortfalls in escapements have resulted in fishery restrictions and closures on sport, subsistence, and commercial users (e.g., Karluk Chinook, Afognak sockeye). The effects of these management actions on cultural, social, and economic benefits to users have yet to be assessed.
(3A-2 - WW) Collect and analyze data, and develop databases and models, for forecasting and other fishery management needs.-	High	
(3A-3 – WW) Conduct ethno-historic and ethnographic research describing patterns of subsistence use of wild salmon and steelhead and investigate changes in those patterns of use through time. (Focus on projects that would not be funded by the Federal Subsistence Program.)	High – Include in 2008 Call	To meet Objective 3A, baseline and trend information about subsistence fisheries is needed. This is lacking for Westward region – particularly for Alaska Peninsula and Aleutian Islands areas (e.g., Chignik not studied since 1990; Akutan and Nikolski fisheries not studied at all). There have been no AKSSF projects funded for social science as envisioned under Objective 3A. Do not use AKSSF funding to replace Federal Subsistence funding that may be available within the WW region.

GOAL 3 – SALMON MANAGEMENT SYSTEMS (Continued)		
Objective 3A- Continued		
Information Need/Actions	**Priority**	**Comments / Context**
(3A-4 – WW) Collect and utilize stock assessment and fishery information to meet allocation and management objectives.		
(3A- 5 – WW) Develop, evaluate, and update fishery management plans, including regulatory plans, hatchery management plans, and other plans and regulations affecting wild salmon and steelhead stocks. Ensure that commercial, recreational, and subsistence uses of salmon and steelhead are addressed.		There are many existing plans, but need to be routinely updated.

Objective 3B. Minimize adverse impacts to wild stocks from enhancement.		
Information Need/Actions	**Priority**	**Comments / Context**
(3B-1 - WW) Assess effects of interactions between wild and hatchery (enhanced) stocks.		In Westward region, there are not significant issues with wild stock protection. Most hatchery production is harvested in terminal areas.
(3B-2 – WW) Develop, implement, and evaluate fish culture practices that minimize adverse interactions with wild stocks.		
(3B-3 - WW) Determine appropriate levels of enhancement.		Addressed by the Kodiak Regional Comprehensive Salmon Plan.

Objective 3C. Identify, assess, and minimize interaction and impacts of invasive species, including aquatic plants.		
Information Need/Actions	**Priority**	**Comments / Context**
(3C-1 - WW) Determine the effects and potential effects of invasive species on wild salmon.		Invasive species are not yet a significant issue in the Westward region.
(3C-2 - WW) Implement measures to control invasive species effects on wild salmon.		