Managing Human-Bear Conflicts
Kenai-Russian River Area

Five-Year Action Plan
2013-2017

USDA Forest Service, Chugach National Forest
US Fish and Wildlife Service, Kenai National Wildlife Refuge
Alaska Department of Fish and Game

In Cooperation with the Russian River Interagency Coordination Group
and a Collaborative Public Process

Russian River Interagency Coordination Group

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Acronyms

ADF&G	Alaska Department of Fish and Game
ANILCA	Alaska National Interest Lands Conservation Act
ARM	Alaska Recreational Management, Inc.
BEAR	Bear Encounter Activity Report
CIRI	Cook Inlet Region, Inc.
DEC	Alaska Department of Environmental Conservation
DLP	Defense of Life or Property
DNR	Alaska Department of Natural Resources
DPOR	Division of Parks and Outdoor Recreation
KRRC	Kenai-Russian River Complex
KRSMA	Kenai River Special Management Area
MDN	Marine Derived Nutrients
MOU	Memorandum of Understanding
MUE	Mutual Understanding and Expectations
NEPA	National Environmental Policy Act
RFP	Request for Proposals
RRICG	Russian River Interagency Coordination Group
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service

Introduction

Located on the Kenai Peninsula in south-central Alaska, the Kenai-Russian River area is an intensively used recreation area valued by anglers and other visitors for its popular roadside fishery and recreation sites between the months of May and September (hereinafter referred to as "in-season"). The recreation area is located within a larger management area called the Kenai-Russian River Complex (KRRC). High human use coupled with the abundant fishery has led to periodic conflicts between the people who visit the area and the brown and black bears that also come to the rivers.

The federal and state agencies that manage the KRRC work together and with partners through the Russian River Interagency Coordination Group (RRICG)[1] to identify and implement management strategies that address and mitigate the potential for human-bear conflicts at this heavily visited area. The RRICG has developed this five-year action plan for 2013-2017, focused on reducing the risk of human-bear conflicts at the Kenai-Russian River area.

For purposes of management at the Kenai-Russian River area, a human-bear conflict is considered to be when:

- A bear exhibits a stress-related or curious behavior, causing a person to take extreme evasive action;
- A bear makes physical contact with a person or exhibits clear aggressive behavior; or
- A bear is intentionally harmed or killed by a person (not including legal harvests).

Human-bear conflicts in the Kenai-Russian River area have resulted in personal injury to visitors and in bears being killed in the defense of life or property (DLP) or to protect public safety. The managing agencies have taken steps to mitigate human-bear conflicts. Past management actions have focused on how anglers handle harvested fish and fish waste (remains after fish is gutted/gilled or filleted); proper storage of human-generated food, beverages and garbage; discrete area and time closures; and public education about ways to avoid attracting bears to areas used by humans. These actions have helped reduce the risk of human-bear conflict, but additional management measures are needed to address the potential for future incidents.

On March 15, 2010, the executive leaders of the US Forest Service (USFS) Alaska Region, US Fish and Wildlife Service (USFWS) Alaska Region, and the Alaska Department of Fish and Game (ADF&G) signed a statement of "Mutual Understanding and Expectations" (MUE) regarding coordinated management actions at the Kenai-Russian River area (Appendix 1). The MUE directed staff from the USFS and USFWS, in collaboration with the ADF&G, to initiate a collaborative public process to develop this five-year action plan to reduce the potential for human-bear conflicts in the area, focusing especially on management of human-generated food sources and bear

[1] RRICG member agencies and partners are listed in Table 1 on page 6.

attractants. The public process was conducted in April-October 2011 and input received is summarized in Appendix 2. Staff from these three agencies worked with other members of the RRICG, including the Kenaitze Indian Tribe, Cook Inlet Region, Inc. (CIRI), and Alaska Department of Natural Resources (DNR) to fully consider public input and develop the five-year action plan.

Management Goal

The management goal for the five-year action plan for the Kenai-Russian River area, as directed in the 2010 MUE, is to:

> Minimize human-bear conflicts and related public/employee safety concerns, while continuing to provide recreation opportunities and conserve fish and wildlife resources at the Kenai-Russian River area. In working to achieve this goal, it is emphasized that reducing availability of disposed fish waste as a potential food source for bears, as well as reducing access to other human generated food sources and attractants, are essential to eliminating food conditioning of bears and reducing the risk of conflict.

The RRICG recognizes that access by bears to disposed fish waste and human-generated food sources at the Kenai-Russian River area must be reduced to the extent that they no longer become food-conditioned. While it is unclear what the necessary amount of reduction would be to change bear behavior, it is presumed that it will be necessary to eliminate nearly all food rewards to avoid this conditioning. Bears are expected to use the Kenai-Russian River area and come into close proximity with people at certain times of the year. Yet, the goal is to have bears obtain natural foods, and not food sources generated by people.

This five-year plan identifies management objectives and specific actions to achieve those objectives. Most actions will be implemented or coordinated by federal or state agencies. Many will require additional public consultation and further environmental review before they are implemented. For some actions, additional work is needed to evaluate feasibility. Decisions will be needed in the future regarding which entity will implement the action, how it will be staffed, and how costs will be covered.

The RRICG will work together in 2013-2017 to implement this plan. Annually, the group will identify the priority actions to be implemented in the coming season with available funding and staff capacity. The group will also strive to identify and obtain funding and other resources to accomplish actions that cannot be supported within current budgets.

The RRICG will conduct monitoring and will review results to assess whether management actions are achieving their objectives and to determine how to modify actions if necessary. The plan is a dynamic document and may be adjusted during the five-year timeframe in response to funding, the results of monitoring, and changing circumstances on the ground. To adapt and adjust the actions within this plan will require a consensus-based decision process by the RRICG. If consensus cannot be reach among

group members, the RRICG will seek direction from higher-level managers within the entities represented on the group.

This plan is consistent with and does not replace the authorities, roles and responsibilities of the federal and state agencies that manage the KRRC and existing cooperative management agreements between those agencies and other entities, including the Kenaitze Indian Tribe and CIRI. The plan supplements, and does not replace, the interagency strategic plan for the KRRC entitled "A Strategic Interagency Response to Dynamic Challenges at the Kenai-Russian River Complex, 2009-2014." The management actions outlined each year in the KRRC Interagency Annual Operations & Implementation Plan (hereinafter, "Annual Operations Plan") will incorporate the direction provided in this plan.[2]

Kenai-Russian River Area

The Kenai-Russian River area is located on the Kenai Peninsula road system approximately 110 miles south of Anchorage and 40 miles east of Soldotna. As many as 100,000-150,000 anglers and other visitors come to the Kenai-Russian River area to fish and recreate each year between the months of May and September.[3] The area is best known for the sport fishery that has for many decades attracted anglers seeking sockeye and coho salmon, rainbow trout and Dolly Varden. The popularity of the Kenai-Russian River sockeye fishery is demonstrated in the high number of angler days for this system, which have increased to a mean of 60,965 angler days in the past decade (2000-2009) from a longer-term average of 48,541 over the years 1963-2010.[4] Subsistence anglers, hikers, bikers and backpackers also visit the area to fish, camp in the Russian River Campground and at nearby developed recreation sites, enjoy nearby trails, and appreciate the area's scenic, natural and cultural values.

This five-year action plan is focused on the specific area along the Russian River and upper Kenai River, shown in Figure 1. Key developed features in the area include the Russian River Campground, ferry and angler access site, parking, boat launch, stairs and trails.

Figure 2 shows the larger KRRC management area, which is managed by several federal and state government agencies, in collaboration with other partners and the public. The area within a two-mile radius of the confluence of the Kenai and Russian Rivers is subject to the most intensive use and management. Lands located between two and five miles of the confluence are included in the KRRC due to significant recreational use in this larger area and the importance of collaboration between agency managers and the adjacent community of Cooper Landing, area businesses and landowners on issues of common interest.

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[2] http://www.fs.usda.gov/resources/chugach/landmanagement/resourcemanagement

[3] Information provided by Alaska Recreation Management, Inc. based on the number of people who typically enter the Russian River Campground and use the Kenai-Russian River ferry each season.

[4] An angler day is defined as one angler fishing any part of a day in a location. Data provided by ADF&G Sport Fish Division.

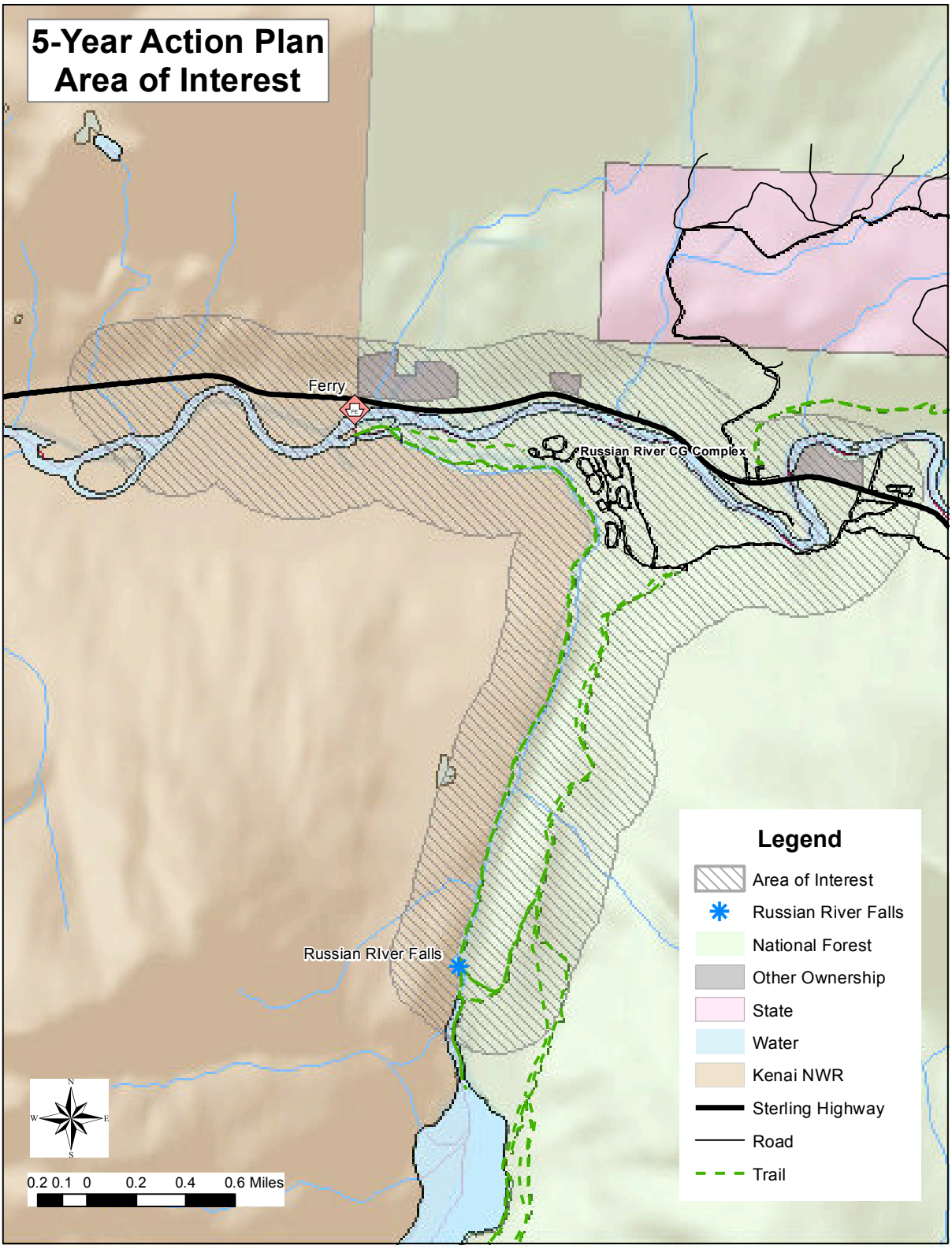

Figure 1 – Kenai-Russian River Area - Focus of Five-Year Action Plan

The RRICG was formed in 2006 to allow the state and federal management agencies and other entities to work together to manage the KRRC. The RRICG includes representatives of the USFS, USFWS, ADF&G, DNR, CIRI and the Kenaitze Indian Tribe. The primary responsibilities of these agencies and partners in management of the KRRC are listed in Table 1 and described further in this section.

The RRICG's specific objectives for coordinated management at the Kenai-Russian River area and the broader KRRC are to:

- Facilitate coordination and communication between agencies and partners.
- Facilitate consistent education, regulation, and enforcement to allow for a safer and more enjoyable recreational experience for all users.
- Develop strategies and protocols to address human-bear conflicts, and to protect natural and cultural resources.
- Develop a consistent public communication strategy.
- Actively engage in and steer annual operations and strategic planning processes.

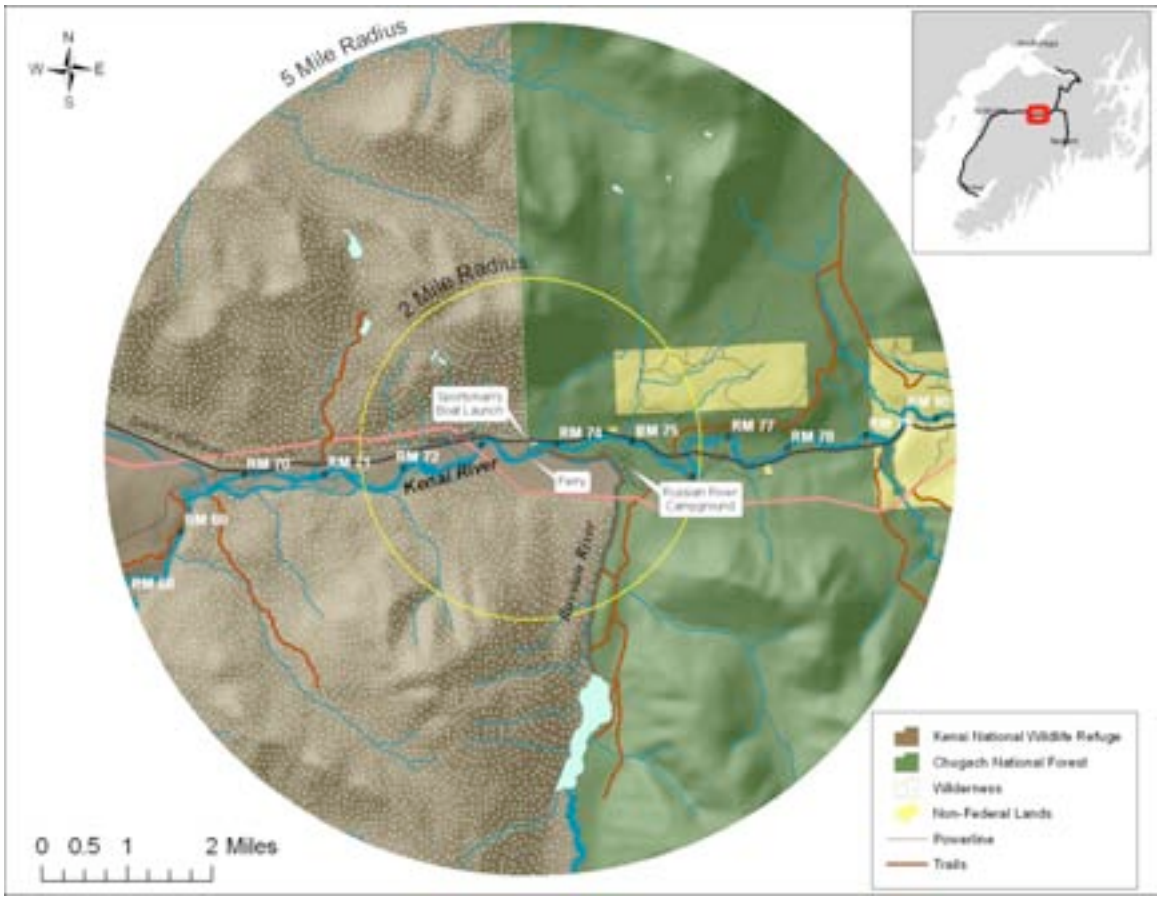

Figure 2 – Kenai Russian River Complex

Table 1 - Russian River Interagency Coordination Group Primary Responsibilities in the Kenai Russian River Complex	
Agency / Entity	**Primary Responsibilities**
Alaska Department of Fish & Game • Division of Sport Fish • Division of Wildlife Conservation	• Protect, maintain and improve the fish, game and aquatic plant resources of the state, and manage their use and development in the best interest of the economy and wellbeing of the people of the state, consistent with the principle of sustained yield. • Regulate hunting and fishing seasons; and bag limits, methods, and means of anglers and hunters.
Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation	• Oversees management of the Kenai River Special Management Area, which includes the Kenai River water column and submerged lands. DNR manages no land base in the KRRC.
Cook Inlet Region, Inc.	• Holds title to two parcels (62 acres total) of undeveloped land in the KRRC. • Holds ownership of the cultural resources that exist in the majority of the area. • Cooperate on management of Sqilantnu Archaeological District, in accordance with 2010 Memorandum of Understanding (MOU) required under the Russian River Lands Act.
Kenaitze Indian Tribe	• Long-standing history and heritage in the area. • Operate K'Beq Interpretive Cultural Heritage Site under special use permit with the USFS. • Regional member of CIRI. • Cooperate on management of Sqilantnu Archaeological District, in accordance with 2010 MOU required under the Russian River Land Act.
US Forest Service • Chugach National Forest	• Manage 23,400 acres of National Forest System lands in the KRRC. • Manage the largest developed recreation site in the KRRC including an 83-site campground, a trail and cabin system, and additional angler access infrastructure. • Cooperate on management of Sqilantnu Archaeological District, in accordance with 2010 MOU required under the Russian River Land Act.
US Fish and Wildlife Service • Kenai National Wildlife Refuge	• Manage 27,000 acres of National Wildlife Refuge lands in the KRRC, of which approximately 23,000 acres is a congressionally designated Wilderness Area. • Manage the Kenai-Russian River Ferry and angler access site. • Oversee management of Sportsman's Boat Launch. • Cooperate on management of Sqilantnu Archaeological District, in accordance with 2010 MOU required under the Russian River Land Act.

The Kenaitze Indian Tribe has a longstanding history and heritage in the Kenai-Russian River area. Significant cultural resources are found within the Sqilantnu Archaeological District, which surrounds the confluence of the Kenai and Russian Rivers and was determined to be eligible for the National Register of Historic Places in 1981. The K'Beq Interpretive Cultural Heritage Site, managed by the Kenaitze Tribe, is located within the KRRC and honors and interprets tribal use of the area. The Russian River Land Act of 2002 cited the abundant archaeological, fisheries and other natural resources of the Sqilantnu District and required that the USFWS, USFS, and CIRI cooperate in efforts to protect and preserve those resources over time. Those parties, in addition to the Kenaitze Indian Tribe, entered into a MOU in 2010 to coordinate and implement actions identified in the Act.

The USFWS Kenai National Wildlife Refuge encompasses approximately half of the lands within the KRRC (Figure 2). Refuge purposes include conserving fish, wildlife and habitats in their natural diversity, providing opportunities for scientific research, interpretation, environmental education and land management training, and providing opportunities for fish and wildlife-oriented recreation. Most Refuge lands in the KRRC are part of the congressionally designated Kenai Wilderness Area, established in 1980 under the Alaska National Interest Lands Conservation Act (ANILCA). The Wilderness Act of 1964 provides the following purposes for the Kenai Wilderness Area: "to secure an enduring resource of wilderness, to protect and preserve wilderness character of the area, and to administer [the area] for the use and enjoyment of the American people in a way that will leave them unimpaired for future use and enjoyment as wilderness". Refuge lands within the KRRC are also part of the Andrew Simons Wilderness and Research Natural Area.

The USFS Chugach National Forest manages land on the eastern side of the KRRC (Figure 2). The Chugach National Forest's Revised Land and Resource Management Plan (2002) recommended that the Russian River be managed for its Outstandingly Remarkable Values, which are recreation, fisheries and prehistoric resources as it relates to the Wild and Scenic Rivers Act. In the forest plan's Record of Decision (2002), the lower section of the Russian River from the confluence of the Kenai River up to the Russian River falls (4.9 miles) was recommended for designation to the National Wildlife and Scenic Rivers System and was classified as a Recreational River, and the upper section from the falls to Upper Russian Lake (12.4 miles) was classified as a Wild River.

The ADF&G Division of Sport Fish and Division of Wildlife Conservation manage fish and wildlife at the KRRC in accordance with regulations adopted by the Alaska Board of Fish and Alaska Board of Game. The Boards' main roles are to conserve and develop Alaska's fish and wildlife through appropriate resource allocation. The Boards set seasons, bag limits, methods and means for the state-managed fisheries and wildlife harvest.[5]

[5] For current State of Alaska fish and wildlife regulations, go to: http://www.adfg.alaska.gov/index.cfm?adfg=regulations.main

In 2007, the Federal Subsistence Board established a subsistence sockeye fishery in the Russian River for qualifying residents of Cooper Landing, Hope and Ninilchik. This federal subsistence fishery is managed by the USFWS Office of Subsistence Management and administered by the Kenai Fish and Wildlife Field Office and USFS staff.[6]

The Kenai River is part of the state-designated Kenai River Special Management Area (KRSMA), which is the surface estate of the state land and water within and adjacent to the Kenai River. KRSMA was established by the Alaska State Legislature as unit of the Alaska State Park system in 1984. Management of KRSMA is focused on protecting natural resources and fish and wildlife habitat, managing the river's recreation and commercial uses, and providing public facilities, and is governed by the Kenai River Comprehensive Management Plan. DNR's Division of Parks and Outdoor Recreation (DPOR) is the lead manager, advised by the KRSMA Advisory Board. The USFS, USFWS and ADF&G, which are the primary agencies involved in management actions at the Kenai-Russian River area, are members of the KRSMA Advisory Board.

Other parties currently involved at the Kenai-Russian River area include Alaska Recreational Management, Inc. (ARM), a private business that manages the Russian River ferry through a contract with the USFWS and the Russian River Campground through a special use permit with the USFS. ARM contributes to reduction of human-bear conflicts by providing educational messaging to visitors and through their responsible management of ferry and campground facilities.

As many as 80 volunteers in the Stream Watch Program, an award-winning volunteer program founded by the USFS in 1994, assist the agencies with protection of the valued natural and cultural resources of the Kenai-Russian River area. Volunteers help with one-on-one education contacts with anglers and other visitors, monitoring and removal of wildlife attractants, and aiding in stream restoration efforts.

[6] For current Federal Subsistence Management regulations, go to: http://alaska.fws.gov/asm/osm.cfml

Need to Address Human-Bear Conflicts

Between May and September, the high level of human use at the Kenai-Russian River area, combined with abundant salmon and the high occurrence of bear activity, has generated management challenges for resource and land managers. The regular occurrence of human-bear interactions, and a few more severe human-bear conflicts, has led the RRICG to focus significant management attention on the area.

The most significant human-bear conflicts have included:

- In July 2003, an angler was seriously mauled on the Russian River.
- In July 2006, a bear collapsed a tent with a camper inside in the Russian River Campground.
- In 2008, eight bears were killed in defense of life or property in the Kenai-Russian River vicinity, up from a previous high of four bears in 2003 (Figure 3).[7]

While there were no human injuries or bears killed in 2009-2011, human-bear interactions are very common. There is an on-going need to address potential safety risks and to ensure responsible stewardship of the area's resources.

Black and brown bears may be observed in both developed and undeveloped areas at the Kenai-Russian River area, including along the river corridor, on the trails, and at the campground and other developed recreation sites. Bears are naturally attracted to salmon in the Kenai and Russian Rivers. They are also attracted to human-generated food, garbage and fish waste on the rivers and in developed areas. The availability of these human-generated attractants has caused changes in the number, distribution and behavior of bears in the area.

Reducing the availability of disposed fish waste, human food and garbage as food sources for bears at the Kenai-Russian River in-season is a mutual objective of management agencies and cooperating partners. The risk of human-bear conflicts is compounded when these types of human-generated attractants are available to the bears. Wildlife (including brown and black bears) that is food conditioned can become aggressive or behave less predictably, increasing the potential for adverse encounters that lead to human injury or wildlife mortality. ADF&G data shows that the level of human caused brown bear mortality at the Kenai-Russian River area increased in the last decade and peaked in the 2008 season (Figure 3). The mortality data includes reported brown bears killed through the defense of life or property and through other non-hunting related incidents such as vehicle related mortality (in part related to the high human activity at the area in-season).

[7] "Other kill types" reported in Figure 3 include three bears killed by road traffic associated with the summer fishery and one illegal kill. At the time it was shot, this bear was located above the confluence, on the side of the Kenai River managed by the USFS.

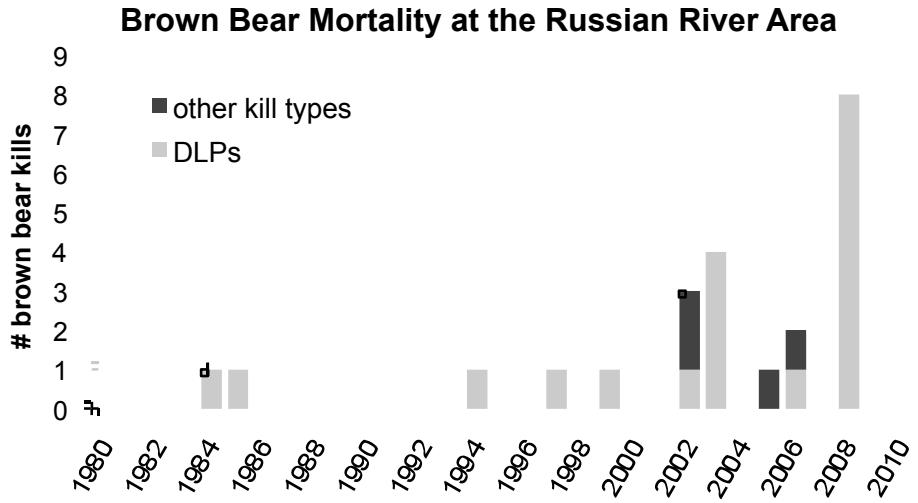

Figure 3 - Brown bears killed in the Kenai-Russian River vicinity during the summer season, 1980-2011 (not in the adjacent community of Cooper Landing)
Source: ADF&G, Thomas McDonough, 2012

With high public visitation and bears in the area, it is very common for bears and humans to be in close proximity to each other. Many people come to the Kenai-Russian River unaware that bears can be present in undeveloped *and* developed recreation areas, and with little or no understanding of how to properly react when a bear is sighted. Visitors react inconsistently when they encounter bears and may act in ways that result in a higher likelihood of human-bear conflicts. Some visitors approach too close to bears, use firearms in an attempt to scare bears away, or use bear spray ineffectively. These behaviors place people and bears in the area at risk. Ensuring that people are "Bear Aware" as they participate in fishing and other recreation activities and understand how to respond to bears appropriately is important to reducing the risk of human-bear conflicts.

The primary recreational activity for the Kenai-Russian River Area is angling. The area is not considered to be well-suited for bear viewing as a destination activity, due to the design of its facilities, the existing very high level of visitation focused on angling, and the fact that people access the area from many different points at all hours of the day and night. The unrestricted public access creates unpredictable situations where bears and people cannot maintain adequate physical separation as they go about their activities. Bear viewing is better suited to locations where human use is more predictable, which allows bears to grow habituated to a narrower range of human activities. An awareness of the inherent risks at the Kenai-Russian River area must be emphasized and communicated to visitors so that they fully understand the high level of personal responsibility that comes with maintaining their own safety, the safety of others, and conservation of the bears in this area.

Management Actions at the Kenai-Russian River Area

Between 2006-2012, the RRICG has implemented and adapted a suite of management actions to address the challenging management issues related to human-bear conflicts at the Kenai-Russian River (Table 2). These actions will be continued in 2013, unless they were found to be not effective. Additional management actions to be pursued at the Kenai-Russian River area in the future are discussed in the following plan sections.

In addition to implementing the management actions in Table 2, the agencies have tried to learn more about the population of brown bears on the Kenai Peninsula and using the Kenai-Russian River area. As early as 1993, ADF&G estimated there were 250-300 brown bears on the Kenai Peninsula (not including area south of Kachemak Bay and in Kenai Fjords National Park) based on an assumed density of 20 bears per 1000 km^2 in approximately 13,000 km^2 of habitat (Del Frate, 1993).[8] This estimate was made by comparing known densities of brown bears in other areas of Alaska with expert knowledge of brown bears on the Kenai Peninsula.

In 2007-2009, the ADF&G and USFS conducted a pilot study to determine the minimum number of brown bears using the Russian River area (Dawson et al., 2011).[5] Samples of hair collected opportunistically from rub trees and vegetation along bear trails provided DNA-based identification of 39 different brown bears that visited the Russian River area during these years. Preliminary DNA analysis indicates that possibly only two individuals used the Russian River area in multiple years.

In June 2010, the USFWS Kenai National Wildlife Refuge in partnership with the USFS Chugach National Forest conducted a DNA-based mark-recapture study to estimate the brown bear population on the Refuge and adjacent portion of the Forest (Morton et al., 2013).[9] The study generated a population estimate of 428 brown bears (95% lognormal CI: 353 - 539 bears) for the study area. Extrapolating study results to all available brown bear habitat on the Kenai Peninsula suggests a peninsula-wide population estimate of 624 bears (95% lognormal CI: 504 – 722 bears).

[8] Del Frate G. G. 1993. Units 7 and 15 Brown Bear. In: S. Abbott, editor. Management Report of Survey Inventory Activities 1 July 1990–30 June 1992. ADF&G. Fed. Aid in Wildl. Rest. Proj. W-23-4 and W-23-5. Study 4.0. p. 49–57.

[5] Dawson, N., S. Farley, M. Bray. 2011. Brown Bear (*Ursus arctos*) presence at the confluence of the Russian and Kenai Rivers, Kenai Peninsula, Alaska: A minimum count of individual bears. 46pp. Report submitted to Chugach National Forest. September 2011.

[9] Morton, J. M., Bray, M., Hayward, G. D., White, G. C. and D. Paetkau. The Kenai Brown Bear Population on Kenai National Wildlife Refuge and Chugach National Forest. 2013. Unpublished Report, U.S. Fish and Wildlife Service, Kenai National Wildlife Refuge. 39pp.

Table 2 – Management Actions taken at Kenai Russian River Area To Mitigate Human-Bear Conflicts – 2006-2012

Planned to continue in 2013, unless indicated as *not effective*

Education/Outreach

One-on-one contact with anglers and other visitors, provided by Stream Watch volunteers, agency staff, on-site Russian River Campground and Kenai-Russian River Ferry staff

Public communication tools (Visitors Guide, flyers, signs, AM radio transmitter 1600 AM)

Fish Waste Management

"Stop, Chop and Throw", cutting up fish waste into numerous pieces and throwing into moving currents. Agencies requested anglers to do the following in 2009-2012, and will continue to request this in 2013:

- Remove fish from the Kenai-Russian River area whole; process responsibly offsite following solid waste standards
- Gut/gill only; or if they preferred to fillet, anglers are asked to use the fish cleaning tables at the confluence or ferry site, and to Stop, Chop and Throw to facilitate fish waste dissipating into fast currents of the Kenai River and reduce accumulation of fish waste within the high public use area.

Manual raking - Agencies manually remove accumulating fish waste from eddies and dispose of it into faster moving currents. (2006, 2007, 2009, 2011, 2012)

Fish cleaning surfaces reduced to eight, located only at confluence and ferry (2009-2012); eliminated on the Russian River and reduced in the Kenai River main stem and relocated away from eddies. (2008)

Manual fish waste chopper and grinder prototypes fabricated and tested; *not effective*. (2007, 2008)

Enforcement / Regulations

Food & harvested fish storage orders (2007-2012):

- All human food attractants (food, drink, garbage) and cooking/storage equipment must be stored in bear-resistant container, in vehicle, or within three (3) feet of owner at all times while on the river.
- Retained fish must be kept within 12 feet of angler at all times while on the river.
- While in campground all food attractants (food, drink, garbage) must be acceptably stored.

Law Enforcement – Additional presence of law enforcement USFWS and USFS officers; USFS staff also trained as Forest Protection Officers (2008-2012).

Temporary spatial or temporal closures to address specific conflicts or to avoid potential conflicts, as needed. History of past temporary closures include:

- Temporary night-time fishery closure after mauling. (2003)
- Temporary closure to night-time access to river on USFS and USFWS land. (2005, 2006)
- Temporary land closure in limited area below ferry on USFWS land. (2007, 2010-2012)
- Temporary tent closure in the Russian River Campground. (2006, 2012)

Infrastructure / Trails

Manage vegetation on trails to increase visibility along blind corners and along overgrown sections. (2010, 2011, 2012)

Bear resistant containers installed in individual campsites. (2010, 2011)

Other Actions

Use Bear Encounter and Activity Reports (BEAR), a standardized data collection protocol to document bear encounters. (2007-2012).

Monitor fish waste accumulation in-season, using a standardized monitoring protocol. (2010-2012)

Removal of bears or other actions to address nuisance or dangerous bears, when necessary.

ADF&G investigated marking bears with paint to identify individuals; *not effective*. (2007).

Development of Action Plan – Public Process

As directed in the interagency 2010 MUE (Appendix 1), the USFS and USFWS, in collaboration with the ADF&G and other members of the RRICG, conducted a collaborative public process to develop this five-year action plan to mitigate human-bear conflicts in the Kenai-Russian River Area.[10] Materials developed and used during the public process and summaries of public comments are provided in Appendix 2.

The MUE identified primary topics related to human-bear conflicts to address during the public process, including: "fish [waste] management, spatial and temporal management of people, bear resistant infrastructure, adverse conditioning of bears, public outreach and education, citizen stewardship opportunities, voluntary public efforts, regulations, and enforcement efforts". This list well reflected the topics raised by the public for discussion, based upon their knowledge of and experiences at the Kenai-Russian River area.

In December 2010, the facilitator conducted an initial round of 20 key stakeholder interviews to solicit key issues and recommendations on process design. In April and October 2011 public meetings were held in Soldotna, Anchorage, Cooper Landing and Wasilla. Fifty-five people attended the April 2011 meetings; 32 people attended the October 2011 meetings. Fifty-six additional comments were submitted via email, letters, on written comment forms, or by phone.

At the April 2011 meetings, the public was asked to comment on two key questions:

- What are specific issues related to human-bear interactions at the Kenai-Russian River area you believe should be addressed through management actions and strategies?
- What management actions and strategies do you suggest agencies consider using to address these issues?

Comments were collected through small and large group discussions and on written comment forms provided to attendees. Public input received during these meetings and in subsequent written comments was evaluated by the RRICG.

At the October 2011 meetings, agencies used a Discussion Guide to engage the public in consideration of the many potential management actions suggested by the public and researched by the agencies to this point in the planning process. Topics included: fish waste management, temporal (night-time) access closures, spatial access closures, actions to manage bear behaviors and population, public education, regulations and enforcement, infrastructure, trails and visibility. The public was asked to share their views about the feasibility and acceptability of a wide range of potential management actions.

[10] The public process was coordinated by a third-party neutral facilitator, Jan Caulfield, in association with the US Institute for Environmental Conflict Resolution (www.ecr.gov), a federal agency that provides services to help parties address environmental conflicts involving the federal government.

The RRICG vetted the public's input during three planning meetings following the public process. Criteria used to evaluate which management actions to include in the five-year plan included: potential effectiveness in achieving the management goal and objectives; feasibility; compatibility with other mandates that guide management of the area; appropriateness relative to public perspectives and input, and potential consequences/outcomes of the action; and cost-effectiveness.

The planning process was supported by a project website with information about the planning process, opportunities for public involvement, and draft materials for review. The public was also notified of opportunities to participate via email notices, press releases, radio interviews and public service announcements, newspaper and on-line forum calendars, posted flyers, and publicity at community events frequented by anglers and recreationists.

Management Actions for Implementation in 2013-2017

This section outlines management objectives and actions identified for implementation at the Kenai-Russian River area in 2013-2017. Many actions will require additional dialogue with the public before they are enacted.

Actions to be implemented each year will be prioritized, agreed to and planned for in out-year budgets of the agencies and partners participating in the RRICG, and included in the RRICG's Annual Operations Plan. The plan will specify agency lead(s), tasks and assignments, and the schedule for completion.

Implementation of the management actions in this plan will depend on available funding. Many of the actions listed below can be implemented with existing staff capacity, assuming a level of funding similar to recent past years. However, future federal and state agency budgets are uncertain. If agency funding declines or if substantial additional funding is required for specific actions, such as for new fish waste management approaches, the agencies and other partners involved in this effort will need to prioritize and possibly redirect existing operational funding, enter into partnerships to accomplish these management actions, and/or pursue alternative funding sources (e.g., user fees, grants, other sources).

As more fully described in a later section of the plan, the RRICG will conduct annual monitoring to determine if the management actions are achieving objectives. The five-year action plan is a dynamic document and may be adjusted during that timeframe in response to the results of monitoring and changing circumstances within the area.

I. Bear Activity at the Kenai-Russian River Area

Objectives

- Increase awareness of in-season bear activity and use at the Kenai-Russian River area to help guide management decisions and to provide information to the public to help reduce the potential for human-bear conflicts.
- Increase public safety through coordinated management of nuisance and/or dangerous bears.

Overview

The occurrence and improper handling of human-generated attractants at the Kenai-Russian River – such as disposed fish waste, human food, beverages and garbage – can lead to bears using the area to obtain these unnatural foods. The presence of these attractants may also change bears' behavior, making some less likely to leave an area occupied by humans, either due to habituation or food conditioning, and in some cases a bear becoming a nuisance or dangerous. The high number of people using the area also increases the likelihood of human-bear conflicts based on the probability of people and bears encountering one another. It is important for agencies to collect information about bear use at the Kenai-Russian River area to inform long-term management and to keep visitors informed about known bear activity and where they may be most likely to encounter bears during their visit. It is also important for the agencies to be ready and able to respond appropriately and in a coordinated manner in cases where they need to address a nuisance and/or dangerous bear.

The Bear Encounter Activity Report (BEAR) protocol will be used to collect and record information about bear use at the Kenai-Russian River area (see Monitoring section, below). The RRICG Annual Operations Plan will guide staff to regularly query the BEAR database, notify managers about what the data shows, and log decisions and actions in response to observed conditions that merit caution.

Action I-1: Address public safety situations involving bears

Public safety is paramount for the land management agencies, working in cooperation with resource managers. Agencies will continue to address public safety situations involving bears as required, through an appropriate range of responses, as detailed in the Annual Operations Plan. Responses may include public notification of the presence and proximity of a nuisance or dangerous bear, closing an area of particularly high bear activity to public access to allow bears time to leave the area naturally, or removal of bear(s). The BEAR monitoring database will be used in conjunction with staff observations and experience to inform managers of potential safety risks as issues arise. Decisions about appropriate responses will be based on communication between the USFS District Ranger and the USFWS Refuge Manager, in coordination with ADF&G Division of Wildlife Conservation. Any decision to remove or kill a bear in the Kenai-

Russian River area will be coordinated among these agencies. However, any of these agencies has the authority to take immediate action as necessary to protect public safety.

It is important to track bear encounters and sightings (such as through the BEAR protocol) to ensure that a prompt agency response can be coordinated based on credible information. Information and educational materials provided to the public must include very clear and direct messages related to risk reduction and how to react appropriately when a bear is encountered. Additional information gained through future research about how many bears use the Kenai-Russian River area and how it is used (day/night, primary locations, etc.) would also help agencies prepare for response.

II. Fish Waste Management

Objective

- Reduce the availability of human-generated fish waste (remains after fish are gutted/gilled or filleted) to bears at the KRRC to maintain an environment where bears do not obtain such food sources and do not exhibit behaviors that result in potentially dangerous situations for staff and visitors, and/or result in removal of the bear by an agency action or through a DLP action.

Overview

Bears are naturally attracted to the Kenai Russian River area during the summer season because of the abundance of salmon. The most sought-out species for anglers is the sockeye salmon, which is available during two separate runs (early June-July and late July-August). The first run spawns in the upper reaches of the drainage and lakes system and not within the area of high human use. The second run, however, spawns in the high-use area and generates naturally occurring fish carcasses for bears to obtain.

While bears will continue to access the area and feed on fish carcasses, managers believe that reducing the presence of fish waste and other human-generated foods would mitigate the potential for human-bear conflicts.

In 2012, the RRICG took the following actions to reduce fish waste availability to bears at the Kenai-Russian River area:

1. Take Out Whole - Continued to encourage sport and subsistence anglers to take fish out whole (gutting and gilling is acceptable at the Kenai-Russian River area) and manage fish waste offsite in a responsible manner based on local solid waste standards.
2. Stop, Chop, Throw – If anglers prefer to fillet their catch on-site, encouraged them to use fish cleaning tables at the confluence or ferry site, and to chop fish waste into numerous small pieces and throw into fast-moving river current.
3. "Do Your Part" to move fish waste downstream – Anglers were asked to help by regularly moving any fish waste they encountered along the shore or hanging up on rocks into faster moving water to move it downstream. Agency and ARM staff and Stream Watch volunteers did this also, as time and opportunity allowed.

4. Manual Raking/Removal – ADF&G, the Kenaitze Indian Tribe and CIRI collaborated to rake/manually remove fish waste that accumulated along the shoreline of the Russian River and main stem Kenai River. While raking, staff explained what they were doing and why, and emphasized how anglers benefit by helping out and being a part of the solution. Manual raking was primarily done during the first run of salmon. Scheduled raking was coordinated with the schedule for monitoring fish waste accumulation, to avoid confounding monitoring results.

The management agencies have concluded that the fish waste management strategies used through 2012 need to be augmented to meet the objective. The agencies will pursue a combination of actions to reduce the availability of fish waste to bears at the Kenai-Russian River area (see actions below). The near-term emphasis will be on on-site disposal of fish waste, as these options seem most practical, lower cost, and responsive to the public interest in returning nutrients in fish waste to the river systems. However, off-site disposal options (such as exporting waste for disposal or to use in production of another product) may need to be further considered and pursued if on-site disposal options do not meet the objective.

The agencies considered many issues in deciding how to most effectively manage fish waste at the Kenai-Russian River area in 2013-2017, including:

- Quantity of fish waste – The estimated annual weight of fish waste generated in the area between June 11th - August 20th averages 114,000 thousand pounds (minimum 58,000; maximum 179,000 thousand pounds), based on harvest data from 1991-2010. This is based on an assumption that approximately 10% of fish would be taken out whole and cleaned elsewhere and that each fish cleaned would generate an average of two pounds of fish waste. It is believed that approximately 25% of the harvest takes place on the Russian River and 75% on the Kenai River (from the confluence down to the power line below the ferry).
- Feasibility – For fish waste management strategies to be effective, anglers must adopt and use them. Strategies must be feasible for the public to use, in situations ranging from anglers fishing close to the ferry and campgrounds, to people fishing further up the Russian River angler trail and at the Russian River falls.
- Marine derived nutrients (MDN) - Sockeye, Chinook, coho, and pink salmon spawn throughout the Upper Kenai River watershed and contribute a significant amount of MDN to the watershed (through deposition of eggs and carcasses), supporting ecosystem productivity and future salmon production. The amount of MDN contributed by fish waste generated by the Kenai-Russian River sport and subsistence sockeye fisheries represents a relatively minor component of the overall MDN provided by all species of salmon in the Upper Kenai River watershed, and was not a primary determinant in management decisions regarding fish waste management options. Nevertheless, it is recognized that fish waste management strategies that dispose of fish waste on-site will retain the MDN from fish waste in the system.

- Bear behavior –Although bears using the Kenai-Russian River area have access to a variety of foods, agencies should be alert to any behavioral changes in bears caused by a reduction in fish waste as a food source. It is noted, however, that it would be difficult to determine the cause(s) of any behavioral changes that are observed. Managing agencies have agreed that potential changes in bear behavior is not a controlling issue in decisions about fish waste management actions.

Action II-1: Evaluate additional or alternative technologies or methods

The RRICG will develop a Request for Proposal (RFP) for a contractor to complete a feasibility assessment / operating plan for a fish waste management system that would be feasible and effective for use at the Kenai-Russian River area in 2013-2017. The system would augment the management approaches used in 2012, listed above. This study would evaluate and recommend options for both sides of the Kenai River (the Sterling Highway side and the far side) and along the Russian River angler trail, as well as options that may augment or replace the grinder option described in Action II-2, below. The RFP will request an evaluation of alternatives, including infrastructure required, staffing required, feasibility, effectiveness, costs, options for covering costs (e.g., user fees, other) and comparison to status quo fish waste management in terms of costs and effectiveness (using 2012 as a comparison). This action is important to evaluate whether the RRICG should implement additional fish waste management measures to reduce accumulation of waste onshore, including such options as a fish waste processing facility in the Russian River Campground, collection of waste at central locations, and grinding and in-river disposal of waste.

Action II-2: Centralized grinding station with in-water disposal

The RRICG has consulted with the USFS San Dimas Technology and Development Center about the installation and operation of a centralized staffed grinding station with in-water disposal of fish waste. The design being discussed includes a modular unit with an electric grinder that could be installed on the Sterling Highway side of the Kenai-Russian River area. Possible locations would be along the boardwalk downstream of the parking area, or between the ferry contact station and Sportsman's Landing. Tasks include working with the Alaska Department of Environmental Conservation (DEC), determining cost and staff capacity to operate (including how waste would be collected and delivered to the facility), who would staff, how costs for installation and operation would be funded, determining appropriate location, protocol for operation, and public messaging about operation. This action is important to evaluate whether the RRICG should go beyond the status quo to implement additional fish waste management measures at the Kenai-Russian River area to reduce accumulation of waste onshore, including collection of waste at central locations, and grinding and in-river disposal of waste.

Action II-3: Determine location for fish cleaning and fish waste management facilities at Russian River Campground

The Chugach National Forest will evaluate the most appropriate location for a fish processing facility at the Russian River Campground to improve fish waste management. Options may include potential development of a fish cleaning facility, fish waste disposal infrastructure, and/or providing a convenient location for a vendor to provide fish cleaning/storage services. This work will be done during an upcoming National Environmental Policy Act (NEPA) process to evaluate and design needed improvements at the campground. This planning process will consider only the campground area, not infrastructure along the riverbank or on surrounding trails. Providing convenient infrastructure for fish cleaning and storage at the campground would be expected to reduce the amount of fish waste available to bears. Providing a central location for cleaning may reduce agency work involved in servicing waste disposal bins at on-river fish cleaning surfaces. The NEPA process also provides an opportunity to consider design changes to make it more convenient for a vendor to provide fish cleaning/storage services to anglers. The need for and feasibility of the facility will be considered in the feasibility assessment conducted under Action II-1, above.

Action II-4: Determine vendor interest in providing fish cleaning and storage services

The USFS in consultation with the USFWS will determine if there is a commercial fish processing vendor interested in providing fish processing services and potentially on-site or off-site freezer capabilities for anglers. Providing vendor services for fish cleaning and storage would be expected to reduce the amount of fish waste available to bears.

Action II-5: Develop incentive program for angler use of new fish waste management infrastructure and practices

As new fish waste management infrastructure and practices are put in place at the Kenai-Russian River area, develop and provide public information about an incentive program to encourage and reward anglers for using these new methods. The public offered ideas for incentives, such as a reduced parking fee, or free freezing/storage of anglers' catch while they are camping.

III. Regulations and Enforcement

Objective

- Improve coordination of interagency enforcement activities and identify opportunities that could result in a greater level of enforcement services and efficiency in improving compliance with regulations.

Overview

The Kenai-Russian River area is a highly used recreation area that warrants a presence by law enforcement personnel. However, agency resources for law enforcement are limited and are expected to remain so over the next five years. Law enforcement personnel from many different land management and resource management agencies have a role at the KRRC and are often called upon to address compliance with requirements on lands managed by another agency. Enforcement personnel from each agency have limited time and their presence is generally staggered from that of other agencies to maximize the overall enforcement presence. It is essential that all enforcement personnel have a common understanding of the existing regulations and the informational messages that are being used to encourage angler behaviors that reduce the potential for human-bear conflicts. A consistent message and approach is essential to ensure anglers are well informed, not frustrated by conflicting directions, and motivated to comply.

It is also recognized that some of the management actions included in the five-year action plan may need to be supported by regulations and enforcement activities in the future. Any regulation changes related to land management would need to be promulgated by the agency with management authority over the land area affected. Regulation changes pertaining to fishery or game management would need to be considered and acted upon by the Board of Fisheries or Board of Game, respectively.

Action III-1: Enhance interagency law enforcement coordination

Through annual meetings and more frequent in-season communication among enforcement personnel and with managers, continue and enhance coordination among law enforcement personnel from the many agencies involved at the Kenai-Russian River area. The goal is to have law enforcement personnel from different agencies address issues in a consistent and coordinated manner and have a common understanding of the regulations and how they are typically interpreted and applied.

Law enforcement personnel, particularly from the USFWS and USFS, should participate in the weekly in-season meetings coordinated by the RRICG Interagency Management Coordinator (hereinafter, "Coordinator"). The meetings should provide a forum for land managers, public education staff, and law enforcement officers to synchronize education messages with the issues and infractions that enforcement personnel see on the ground, and to ensure that the public is receiving consistent messaging. Increased law enforcement coordination would be expected to increase visitor compliance with existing regulations.

Action III-2: Continue coordination of USFS and USFWS regulations

The USFS and USFWS have promulgated land management regulations for storage and oversight of food, garbage and retained fish that will continue to be in effect at the Kenai-Russian River area (see Table 2). In addition, some of the management actions included in this five-year action plan may need to be supported by regulations to ensure consistent language and enforceability. If there is a need for new regulations or revisions to existing regulations related to land management, the USFS and USFWS may pursue a joint

federal rule-making process that would result in a package of regulations that are consistent across federal boundaries. In the interim, the agencies will continue to ensure that regulations are consistent on USFS and USFWS lands. Clear, consistent regulations are essential to public compliance, which helps achieve the objectives of this plan and reduces the need for law enforcement action. Public education will continue to provide clear information on the existing regulations in effect at the Kenai-Russian River area.

IV. Public Education

Objective

- Provide visitors a consistent educational program to complement all of the management strategies at the Kenai-Russian River area, administered through creative and effective delivery methods prior to visitors arriving, in the adjacent community of Cooper Landing, and onsite.

Overview

Through education, visitors can help reduce the potential for human-bear conflicts by learning what to expect in terms of the presence and activities of bears at the area, how they can help reduce bear attractants, and how to appropriately respond when they see or encounter bears. During the collaborative public process, the public emphasized the importance of providing clear, consistent messages through a wide variety of media and tools.

Advanced and on-site messaging will emphasize that the Kenai-Russian River area is managed primarily for angler use. It is not managed as a destination bear viewing area. Messaging will state that there is risk at the area and that the public must act responsibility for their own safety, the safety of others, and the conservation of the bears. Visitors will be advised not to seek out or approach bears, or otherwise behave in a manner that could lead to human-bear conflicts.

The following actions have been identified as the most effective approaches to enhance the current education tools and delivery. These various public education approaches will be pursued in 2013-2017, as funding and staff capacity permits.

Action IV-1: Enhance advanced messaging and on-site education program

Managing agencies, in coordination with contractors/concessionaires and the Kenaitze Indian Tribe that provide public information at the Kenai-Russian River area and K'Beq Site, respectively, will continue and enhance the education program for visitors through the following actions:

1. Continue and enhance Visitor Guide (first produced in 2011), which features text in multiple languages to assist non-English speaking visitors.
2. Enhance peer-to-peer educational strategies (e.g., angler-to-angler).

3. Enhance one-on-one educational strategy through the addition of onsite interpreters (river walks on scheduled timeframes conducted by either interpretive staff or Stream Watch volunteers).
4. Manage staff and volunteer messages and delivery through annual interagency collaboration, training, and in-season accountability.
5. Enhance the effectiveness of visitor information delivered by contractors/concessionaires through annual interagency collaboration, staff training, and in-season accountability.
6. Create and deliver more advanced messaging on the following topics regarding human-bear interactions:
    - The risks at the area and each visitor's personal responsibility to behave in a manner that does not lead to human-bear conflicts.
    - "Bear Aware" information and responsible human behaviors relevant to all visitors to the Kenai-Russian River area.
    - How to appropriately react in case of a bear encounter.
    - Responsible use of bear deterrents at this high public use area (highlight existing laws regarding firearm use at the area).

Action IV-2: Expand use of a variety of social media tools

Create key messages related to reducing human-bear conflicts at the Kenai-Russian River area that can be distributed effectively by RRICG agencies and partners through a variety of social media tools that can be provided to visitors in advance of their visit, via on-line sources and other social media. Annually, review which tools are effectively being used to distribute key messages and expand delivery.

Action IV-3: Expand partnerships for visitor education

Pursue partnerships to encourage wider distribution of educational messages through the use of traditional and alternative methods (e.g., podcasts, public service announcements, publications, news stories, videos, etc.) Annually, send out key messages as "talking points" to a range of partners, so they can emphasize these points in their messaging (e.g., Chambers of Commerce, lodge owners, guide businesses, etc.)

V. Visitor Use and Site Management

Objectives

- Manage the Kenai-Russian River area to maintain sight distances around facilities and on trails to provide visibility and decrease the likelihood of surprise encounters between humans and bears.
- Provide basic, necessary bear-resistant technology (e.g., food storage lockers) where possible, within the context of funding and other management priorities.

- Continue to use measures to keep visitors safe by instituting temporary spatial closures of land and/or facilities if necessary.
- Research and use best management practices that have been successful at other areas with similar issues.

Overview

An important component of reducing human-bear conflicts is managing the Kenai-Russian River recreation sites, infrastructure and facilities in a way that reduces the potential for unexpected human-bear encounters and helps people engage in their recreational activities in a manner that reduces the potential for human-bear conflicts. Site elements that should be effectively managed to achieve these objectives include trails, ferry, campground, and access to both developed and undeveloped recreation areas. Well-designed attractive signs with key education messages and instructions can also help people make choices that will reduce the potential for encounters and conflicts.

Action V-1: Clear vegetation to improve visibility on high use trails

Over the course of the five-year action plan, the USFS will take necessary action to maintain visibility along trails based on in-season field observations. (Note that the USFS conducted vegetation clearing on trails in 2010-2012). Improved sight distance on trails will reduce the likelihood that people and bears will encounter each other in close proximity and lower the potential for human-bear conflicts. Vegetation clearing will be done in a manner that is sensitive to cultural resource values associated with the Sqilantnu Archaeological District and does not jeopardize riparian restoration work or stream bank stability. At least one representative of CIRI and/or the Kenaitze Indian Tribe will be a member of the team to assist in this effort.

Action V-2: Manage developed areas to reduce potential for human-bear conflicts

The USFS and USFWS will continue to ensure that concessionaires and contractors are vigilant in their implementation of operating plans for the campground, ferry site and other developed area related to site cleanliness and other measures to reduce attractants and the potential for human-bear conflicts. Proper management of human-generated attractants at the high-use campground and ferry site will reduce the potential for human-bear conflicts at these locations, reduce attraction and food-conditioning of bears, and help reinforce expected behaviors for the visiting public. Concessionaire and contractor operating plans will be reviewed and adapted annually to address any emerging issues and to ensure that the campground and ferry are managed in a way that models appropriate human behaviors to reduce human-bear conflicts.

Action V-3: Close discrete areas in-season, as needed for public safety

On occasion, discrete site closures are necessary to ensure public safety. The land management agencies will use spatial (discrete area) closures, only as needed in-season to respond to specific and immediate situations where there is high probability of human-bear conflict. Any closure and the subsequent re-opening will be implemented by the land management agency with jurisdiction. Any decision to close or re-open an area will be communicated among agencies, law enforcement and the public based on clear procedures outlined in the Annual Operations Plan. Public communication tools will be used (e.g., press release, social media) to ensure the public is fully informed about the location and need for any spatial closures and to announce re-opening.

Action V-4: Develop and implement improved sign plan

Create and implement an interagency sign plan for the Kenai-Russian River area that is visually appealing and consistent (include interpretive, regulatory, safety, and directional signs) and that effectively delivers key messages. This is especially important if any new regulations are adopted, new public behaviors are being encouraged, and/or new infrastructure is provided. Effective signs are a key element of visitor education and are likely to improve public compliance with regulations and recommended practices. If new infrastructure is provided (particularly for fish waste management), new signs will be important to elicit public cooperation with new practices.

Monitoring and Evaluation

The RRICG will conduct monitoring to track the effectiveness of the management actions included in this five-year plan. The monitoring protocols are designed to be feasible and affordable to carry out with the existing staff capacity and budget available for monitoring and management at the Kenai-Russian River area. The Annual Operations Plan for the Kenai-Russian River area, prepared by the RRICG's Coordinator, will outline tasks, schedules and responsible parties for monitoring.

At its annual post-season meeting, the RRICG will review its implementation of the management actions listed in the five-year action plan and evaluate progress in meeting the plan's objectives. That evaluation will be based in part on whether management actions were carried out as planned, and on the results of the following monitoring protocols.

The RRICG will review monitoring data and reports at its annual post-season meeting. The group will use monitoring results to evaluate whether the plan's objectives were achieved, judge the effectiveness of management actions, and determine whether management actions and/or monitoring approaches need to be adapted. All monitoring results and the findings from the post-season review will be documented in an annual monitoring report.

The following monitoring will be done to ensure that the management actions are successfully achieving the five-year plan's management goal and objectives. The specific methodology for each monitoring activity will be detailed in the Annual Operations Plan.

Monitoring Activity 1: Occurrence of Human-Bear Conflicts – All occurrences of human-bear conflicts will be reported to and recorded by the RRICG Coordinator, and reviewed at weekly in-season and post-season meetings. All reports of human injuries by bears in the KRRC will be investigated by responding agencies and coordinated with ADF&G. Any bears killed in DLP or through agency management action will be reported to ADF&G and appropriate paperwork will be required of the person who killed the bear. Original reports will be maintained by ADF&G, with copies provided to appropriate land managers.

Monitoring Activity 2: BEAR Protocol – Agency personnel (USFS lead) will continue to implement the BEAR protocol to document bear encounters and sightings. Staff will record the number and location of bears observed, and behavior when observed (including whether bears are feeding on disposed fish waste or other human-generated attractants). During the season, BEAR data will be used to guide in-season adaptive management (for example, to notify visitors of known bear activity, to establish a needed area closure, or to address a nuisance or dangerous bear). The BEAR protocol will outlined in the Annual Operations Plan and refined as needed to increase efficacy and applicability.

Monitoring Activity 3: Fish Waste Monitoring Protocol – Agency personnel (USFS lead) will continue to implement the Fish Waste Monitoring protocol each season. The objective of the monitoring protocol is to better understand: (1) where and how much fish waste is loading in the Kenai-Russian River area (location and quantity), (2) the contributing factors that influence fish waste accumulation (such as water levels), and (3) what type of fish waste is observed. (Note that the term "fish waste" refers to remains of a fish that was caught by a human and gutted/gilled or filleted, not to naturally occurring fish carcasses.)

Monitoring Activity 4: Observations of Public Compliance with Regulations and Messaging – Agency staff will monitor visitors' compliance with the food storage and retained fish regulations each season. Monitoring results will be used to adapt and influence messaging and enforcement activities throughout the season.

Key Topics for Future Investigation

Through development of this five-year action plan, the RRICG identified topics for future investigation to provide data useful to management of the Kenai-Russian River area. This information is not critical to current management. However, it would increase agencies' understanding of the resources and uses in the area, and help improve management actions to achieve the goals and objectives of this plan. There is not funding in current agency budgets to accomplish this work. However, the RRICG will work to identify opportunities for partnerships/collaboration or for securing other funding to address these research topics.

Key areas for future investigation include:

1. Bear use at the Kenai-Russian River area, including:
    - Numbers of bears that "move through" the area annually compared with those that stay for an extended period.
    - Night-time use of the Kenai-Russian River area by bears.
    - Spatial distribution of bear use (e.g., habitats used, travel corridors).
2. Human use of the Kenai-Russian River area at night – This information would help managers determine the potential effects and ramifications of closing access to the area at night, as a means to reduce the potential for human-bear conflicts.
3. Sociological dimensions of visitor use at the Kenai-Russian River – Information about visitor expectations and experiences, what types of communication with visitors would be most effective in managing human behaviors, etc. (Note that it would be important for the RRICG to work with researchers to develop objectives and key questions for this type of research, to ensure it is applicable to management.)

Plan Review and Revision

The RRICG will annually review monitoring data, other indicators of the status of human-bear conflicts at the Kenai-Russian River area, and other relevant information to determine whether the actions in the plan are effectively meeting objectives and reducing the potential for human-bear conflicts. The action plan may be adapted during the five-year period, as necessary to improve its effectiveness or to respond to changing circumstances. To adapt and adjust the actions in the plan will require a consensus decision process by the RRICG. If consensus cannot be reached among group members, the issue(s) will be elevated for resolution to higher-level managers within the agencies and organizations represented on the group.

The action plan for 2013-2017 will be reevaluated and revised in time to have a new plan in place for implementation beginning in the 2018 summer season.

Glossary

Adverse conditioning: application of aversive agents (e.g., noisemakers, projectiles, dogs, vehicles) to a bear that is approaching or has approached a conflict situation. May consist of one or many such events. The goal is to remove the bear from the immediate conflict situation and not necessarily to permanently modify the bear's behavior. Further application is not implied nor necessarily consistently applied every time.

Attractant: anything that draws a bear into an area including natural foods (e.g., berries, fish, or ungulate carcasses), human-generated foods, or items humans would consider inedible (e.g. industrial materials such as motor oil, antifreeze, fertilizer, coatings on power cables). Under broadest definition could be anything that bears find interesting.

Bear-resistant: describes an object's composition or qualities that help to prevent bears from accessing something. Usually implies some sort of container or device that helps prevent bears' access.

Bear spray: type of non-lethal deterrent, most notably capsaicin spray.

Deterrent: action taken to dissuade a bear from reaching a goal that people don't want it to reach.

Encounter: synonymous with interaction.

Fish carcass: the remains of a naturally spawned out/dead fish.

Fish waste: the remains of a human-caught fish that is gutted/gilled or filleted.

Food conditioning: form of operant conditioning in which bears learn to associate sources of food with humans or their infrastructure.

Habituation: type of learning in which bear no longer responds to presence of a stimulus; "learned indifference."

Human-generated food: any source of food that derives from humans or human activity including but not limited to garbage, human food, pets or livestock or their food, wild bird food, hunter/angler-killed carcasses, and/or sanitary waste.

In-season: the time of high recreational use at the Kenai-Russian River area, May-September 1.

Interaction: when a person(s) and bear(s) are mutually aware of one another. Bears may react with seeming indifference, by leaving the area, or approaching the person. Synonymous with encounter.

Mauling: an attack resulting in death, or injuries that require medical attention.

Mitigate: to lessen in force or intensity; to reduce.

Mutual Understanding and Expectations Regarding Management Actions at the Kenai -Russian River Complex

On March 15, 2010, the executive leaders of the US Forest Service (USFS) Alaska Region, US Fish and Wildlife Service (USFWS) Alaska Region, and the Alaska Department of Fish and Game (ADF&G) signed a statement of "Mutual Understanding and Expectations" (MUE) regarding coordinated management actions at the Kenai-Russian River Complex (KRRC). The signed MUE is presented in this Appendix.

Actions 1 and 4 of the MUE directed staff from these three agencies to initiate a collaborative public process for the purpose of developing a five-year action plan and monitoring strategy to reduce the potential for human-bear conflicts in the KRRC, focusing especially on removal of human-derived food sources and bear attractants.[1]

[1] Action 2 of the MUE directed ADF&G to submit a proposal to the Alaska Board of Fisheries to regulate the proximity of harvested fish to anglers within the KRRC, with the interest of having a state regulation that mirrored federal regulations that require retained fish to be kept within 12 feet of an angler at all times while on the river. This proposal was submitted to the Board in 2010, but was not approved. Federal regulations continue to be in place.
Action 3 directed the Russian River Interagency Coordination Group to develop and implement a monitoring and evaluation strategy for 2010 and 2011 to evaluate the effectiveness of actions being taken to reduce availability of disposed fish waste to bears. This was done and results have been used to adapt management actions and to inform the management actions and monitoring section of this five-year plan.

US FISH AND WILDLIFE SERVICE,
US FOREST SERVICE, AND
ALASKA DEPARTMENT OF FISH AND GAME
(hereinafter called the SIGNATORIES when referring to all three agencies)

MUTUAL UNDERSTANDING AND EXPECTATIONS REGARDING MANAGEMENT ACTIONS AT THE KENAI-RUSSIAN RIVER COMPLEX (KRRC)

The SIGNATORIES met on July 1, 2009, at the KRRC to witness the challenges our respective staff face in managing high angler use, abundant fish returns, and high density bear use. Based upon this visit and substantial staff work, the SIGNATORIES met again on October 23, 2009, to address issues that were elevated to the Signatories for resolution and direction regarding management actions and coordination at the KRRC.

The following mutual understandings and expectations were reached by the signatories:

- Minimizing negative bear-human encounters and related public/employee safety is the primary concern, while providing recreation opportunities and conserving fish and wildlife resources.

- The intent of this document is to provide clear, consistent, and concise direction to the Russian River Interagency Coordinating Group (RRICG) and associated staff based on agreements reached by the Signatories in order to resolve elevated issues and assist in staff level cooperation, coordination, and public communication.

- The RRICG will remain committed to its original operating charter and strategic plan, which stresses cooperation and coordination while recognizing each agency's unique statutory authorities and line officer responsibilities.

- Reducing availability of disposed fish carcasses as a potential food source for bears, as well as other human derived food sources and bear attractants, in the KRRC is a mutual objective. Reducing these attractants for bears is key to addressing negative bear-human encounters and related public/employee safety.

- The respective agencies are responsible for managing public uses, resources, and public/employee safety and will actively engage the public, solicit input, and support from all relevant sources and stakeholders. The RRICG will ensure that all reasonable options are evaluated during a collaborative public process.

COLLABORATIVE PUBLIC PROCESS

Action 1: April 2010 through November 2011

The US Forest Service and the US Fish and Wildlife Service, in collaboration with the Alaska Department of Fish and Game and members of the RRICG, will initiate a collaborative public process for the purpose of developing a well-supported, comprehensive, management plan for reducing adverse bear-human encounters in the KRRC, especially removal of human-derived food sources and bear attractants. Factors that will be considered include fish carcass management, spatial and temporal management of people, bear resistant infrastructure, adverse conditioning of bears, public outreach and education, citizen stewardship opportunities, voluntary public efforts, regulations, and enforcement efforts.

Actions that may result from the public process include development of NEPA documents, federal joint rule making, forest orders, state regulations, engineered solutions (infrastructure), outreach and education plans, etc. Regulations, if determined necessary, will be pursued through the most appropriate venue (State, Federal, or both) decided upon by the Signatories.

Action 2: April 2010

The Alaska Department of Fish and Game, in consultation with the Forest Service and the Fish and Wildlife Service, will submit a proposal to the Alaska Board of Fisheries to regulate the proximity of harvested fish to anglers within the KRRC.

Action 3: April 2010 to November 2011

Through the RRICG, develop and implement a monitoring and evaluation strategy for 2010 and 2011 field seasons to evaluate the effectiveness of current actions being taken to reduce the availability of fish carcasses to bears. Monitoring and evaluation strategy will include clearly defined measurement criteria and monitoring protocols to evaluate effectiveness of current actions in achieving mutual objectives. Evaluation results from 2010 season will be used to adapt and modify actions in 2011.

Action 4: December 2011

Through the RRICG, develop a 5-year action plan and monitoring strategy that identifies specific actions to be implemented from 2012 through 2016, based on results of the collaborative public process and monitoring efforts in actions 1 and 3 above. Each action will have identified funding source, agency jurisdiction or responsibility for accomplishment, processes that must be achieved in order to implement actions, and clearly defined measurement criteria, monitoring protocols, and management "triggers" to evaluate effectiveness and adapt management.

2010 SEASON

During the 2010 season, the RRICG and associated staff will be responsible for cooperatively implementing and coordinating the following interim measures and others that may be developed, to reduce human derived food sources and bear attractants within the KRRC.

Interim measures to be implemented in 2010 include:

1. The US Fish and Wildlife Service will implement temporary public use restrictions for recreation and fishing areas: (e.g., food and equipment storage and use, angler handling of harvested fish, and trash) and strive to be consistent with the US Forest Service public use restrictions already in place, with the intent of increasing consistency in management and enforcement across jurisdictional boundaries.

2. Consistent with the 2009 Operational Plan for the KRRC, encourage anglers to gut and gill on the clear waters of the Russian River and/or to take fish out of the KRRC whole, and to properly and responsibly dispose of carcasses offsite. If anglers prefer filleting harvested fish, they are encouraged to take the fish to the confluence and to chop (into numerous pieces) and throw into fast moving currents. Consistent and coordinated communication, public education, and outreach efforts concerning proper disposal of fish carcasses offsite will be pursued to prevent shifting waste related problems to other areas.

3. The RRICG will review and evaluate the effectiveness of the number and location of fish cleaning tables at the ferry and confluence areas of the KRRC that were implemented in 2009, to determine whether or not any changes need to be made for the 2010 season. Anglers using the tables will be encouraged to "stop, chop (into numerous pieces), and throw" into swift water. The RRICG will also develop specific measurement criteria "management triggers" to be able to monitor and evaluate the need to make modifications throughout the season (see Action 3 above).

As funding and internal processes allow:

4. Explore placing a carcass "cage" at or near the cleaning tables to collect and facilitate offsite disposal of carcasses.

5. Install a commercial grade fish grinder (requires electricity) and/or develop a commercial-type grinder powered by water flow in the Kenai River. This may require permits from Alaska Department of Environmental Conservation.

6. Develop and provide anglers an enclosed, onsite processing facility (ies).

7. Hire concessionaire and/or encourage local businesses/groups to develop local commercial processing or storage facilities.

The Executive Interagency Leadership Team will be presented with a status report by the RRICG in May 2010 to assure progress, coordination, and cooperation of the above direction, followed thereafter by annual reports of additional actions and implementation.

Denby S. Lloyd
Commissioner
Alaska Department of Fish and Game

19 March '10
Date

Beth G. Pendleton
Regional Forester
US Forest Service

3/22/10
Date

Geoffrey L. Haskett
Regional Director
US Fish and Wildlife Service

3/17/10
Date

Collaborative Public Process (April – October 2011)

The Five-Year Action Plan for Managing Human-Bear Conflicts at the Kenai-Russian River Complex was developed by the Russian River Interagency Coordination Group (RRICG), through a collaborative public process featuring two series of public forums in affected communities and opportunities for written public input. The public process is described in an earlier section of this action plan.

This Appendix includes:

- Summaries of comments offered at public meeting series held in four communities in April and October 2011 and in writing.
- Discussion Guide developed by the RRICG and used to frame the presentations and conversations during the second series of public meetings.
- Summary of suggestions that were received during the public process that were considered by the RRICG but not included in the management plan, and the rationale for not including these actions.

The public assisted with the planning process by collaborating with management agencies to identify issues of concern related to human-bear conflicts at the Kenai-Russian River area, sharing their experiences at the area, and suggesting management actions that could be taken to reduce the potential for conflicts. Public participation in development of this five-year action plan is greatly appreciated by the RRICG.

Summary of Public Forums: April 18-21, 2011 (Cooper Landing, Soldotna, Wasilla, Anchorage) and Written Comments Received through May 2011

The US Forest Service (USFS) and US Fish and Wildlife Service (USFWS), in collaboration with the Alaska Department of Fish and Game and other members of the Russian River Interagency Coordination Group,[1] invited the public to assist management agencies in developing an effective action plan to reduce adverse human-bear conflicts in the Kenai-Russian River area. As first step in the collaborative public process, agencies hosted four evening public forums in Cooper Landing, Soldotna, Wasilla and Anchorage on April 18-21, 2011. A total of 55 members of the public (not including agency representatives or staff) attended the forums.

Comments were collected during small and large group discussions and on written comment forms provided to attendees (their option to complete and return). Public input received during the public forums and in subsequent emailed comments (received through May 31, 2011) are summarized in this document.

At the public forums, participants were asked to comment on two key questions:

- What are specific issues related to human-bear interactions at the Kenai-Russian River area you believe should be addressed through management actions and strategies?
- What management actions and strategies do you suggest agencies consider using to address these issues?

Following the April public forums, the management agencies:

- Considered this public input as they evaluate possible management actions and strategies in more detail.
- Collected additional public input.
- Developed and evaluate more focused management scenarios to discuss with the public during meetings in the fall of 2011.

I. Issues Related to Human-Bear Interactions at Kenai Russian River Area

In small group discussions at the public forums, people talked about a range of issues related to human-bear interactions at the Kenai-Russian River area. The groups then generally moved quickly into discussions about management actions they would like to see the agencies consider using to address these issues (see Section II, below). Issues raised by the public included:

- Bear behavior – Bears at the Kenai-Russian River area have become increasingly food conditioned and habituated to the presence of people, leading to a higher

[1] Additional members of the RRICG include: Alaska Department of Natural Resources Division of Parks and Outdoor Recreation, Kenaitze Indian Tribe, and Cook Inlet Region, Inc.

concentration of bears, much different bear behavior, and more potential for human-bear interactions and conflicts than elsewhere on the Kenai Peninsula.

- Bear populations and management – Some members of the public commented that they believe there are now more brown bears on the Kenai Peninsula than in the past. There was general interest in having more data on brown bear populations on the Kenai, bear numbers at the Kenai-Russian River area, and analysis of how population levels and management of hunting affects brown bear numbers and behavior at the Kenai-Russian River.

- Bear conservation – Some meeting participants expressed concern about killing bears through defense of life and property (DLP) and/or management actions.

- Education – Education is key to avoiding human-bear conflicts and there are continually new users who need to be educated. There is strong public support for continuing education and recognition that the agencies are doing a good job with public outreach.

- Regulations – There is a range of views on regulations, from those who support regulations to manage human behavior (and may prefer regulations to voluntary measures), to those who desire no additional regulations (concerned that "anglers will be regulated off of the river").

- Enforcement – Enforcement of existing regulations may need to be increased, particularly at high public use times, including weekends and holidays.

- Fish waste – There is a continual need to manage fish cleaning and waste disposal, with a range of views on the most effective management solutions (see Section II).

- Other (non-fish waste) attractants – There is a continual need to manage human foods and other wildlife attractants, with a range of views on effective management solutions (see Section II).

- Public safety – Safety issues raised include concerns about the potential for conflicts between anglers and bears, potential mishaps when guns are used to deter bears, and the safety of Emergency Medical Services (EMS) responders responding to emergencies at night.

- Area capacity – Some people believe that there are too many people using the Kenai-Russian River area, making it more difficult to manage human behavior and address the interaction of people and bears.

- Management actions must be adaptive (for example, to respond to changes in river flow levels, human use levels, numbers of bears, etc).

II. Suggested Management Actions & Strategies

The following table summarizes comments regarding the types of management actions and strategies the public would like the agencies to consider using at the Kenai-Russian River area to reduce the potential for human-bear conflicts and address the issues raised in Section I.

These comments reflect a range of opinions regarding what actions different members of the public believe should be pursued – therefore, some of the points below conflict with others. All points were considered during this public process.

The agencies evaluated these recommendations as they developed the five-year action plan for management of human-bear conflicts at the Kenai-Russian River area.

Topic	Comments re: Management Actions & Strategies
Management Goals	Comments related to management goals for the KRRC included: • Define management goals clearly and monitor whether the goals are being attained. • Set a management goal of maintaining a balance between human and bear use; want to have bears also using the area. • Set a management goal that gives more priority to human access/use for recreation; manage bears more intensively in favor of less restriction of human use. • Develop a management plan that is adaptive, so that appropriate and effective measures can be used each year, in response to changing environmental, human use, wildlife use, and other conditions. • Base management actions on realistic risk assessments, recognizing the importance of prudent management for public safety. • Focus on managing human and bear behaviors during the early sockeye run, as that tends to set the stage for human-bear interactions in the later run. • Revise the definition of "human-bear conflict" (presented at the April public forums) to include the term "aggressive" bear behavior instead of "predatory" behavior. • Research and adapt successful management actions and strategies from other areas with similar issues.

Topic	Comments re: Management Actions & Strategies
Fish Waste	Comments related to fish waste management included: • General – Fish waste management needs to be clearly addressed and the public well educated about what is required or recommended. • Grinder: Pursue mechanical grinder technology; install at location(s) that will be convenient to and used by anglers (e.g. at fish cleaning tables). • Vendor: Work with vendor/concessionaire to collect fish waste and reuse/dispose; may provide fish cleaning / freezing services; business may be able to use waste profitably and fund their services. • Facilities: Provide facilities to support fish cleaning and disposal (e.g. fish cleaning house @ campground); need water at these locations. • Fish cleaning tables: – Offer more cleaning tables at strategic locations. – Specifically, put tables back on the Russian River. – Keep tables off of the Russian River. – Adjust table locations as necessary for changing conditions (e.g. water flow). • Manual removal of carcasses: Support this, especially in low water years when carcasses accumulate; requires funding and/or volunteers. • Fish waste disposal: – Return waste to stream system; important nutrients for ecosystem (e.g. rainbow trout productivity). – Identify appropriate disposal locations and facilities or infrastructure; coordinate with other agencies and Borough. – Consider disposing of waste in-river away from high public use areas (either upstream or downstream), to attract bears away. • Stop/Chop/Throw: – Stop/Chop/Throw *is not* working, should reconsider – issues with waste size, increases bear interactions with human since bears cannot grab a whole carcass and retreat to forest cover. – Stop/Chop/Throw *is* working. • Take Out Whole: – Asking people to take fish out whole *is not* working – There is substantial non-compliance, which creates cleaning/disposal problems elsewhere. – Asking people to take fish out whole *is* working. • Monitoring of fish waste management strategies: It will be difficult to monitor the effectiveness of different fish waste management strategies; many variables (run size, water level).

Topic	Comments re: Management Actions & Strategies
Education	Comments related to public education at KRRC included: • General comments – General support to continue and increase education efforts, even if human-bear interactions and potential for conflicts seem to decline in a given year or two. There are constantly new visitors to educate. Specific ideas included the following. • One-on-one education is highly valued and thought to be most effective. Ideas suggested: – Increase Stream Watch presence as volunteer on-site educators (extended hours, increase numbers, emphasize positive interactions with area users, locate at key access points such as top of stairs) – Educate campers at the campground: ARM contact station, campground hosts – Increase angler-to-angler education; specifically ask them to spread the word to others on the river – More agency educators, that can also enforce if necessary • On-site orientation session(s) - Require attendance at a KRRC-specific education program (similar to Katmai NP "Bear School") or web-based video. • Partnerships for education - Provide education materials through partnerships / collaboration with: – Sportsman's organizations – Tourism businesses / lodging – Chambers of Commerce – Retailers / vendors • Web-based Information - Provide more information on the web; link with sportsman's organizations, tourism business, vendors and other websites • Publications - Magazines (Hunt Alaska; Fish Alaska; Alaska Airlines); newspaper inserts; format on-site publications as "pocket-size" • Signs – – Signs useful; like rhyming signs on stairs – Signs not useful – Post white-board(s) continually updated with wildlife sightings and status of wildlife activity • Other education ideas / comments: – Publicize Successes - "This is working; help us keep it going" – Evening campground programs – Concern that AM radio is not effective – Use videos / slide shows at high public use areas (e.g. ferry line)

Topic	Comments re: Management Actions & Strategies
Temporal Closures	Comments about temporal closures as a management tool to manage human-bear conflicts at KRRC included: • Support considering nighttime closures. The following points were raised by those suggesting that nighttime closures be considered: – Times: Consider closing access for human use at 11:00-12:00 pm and reopen between 4:00-6:00 am. – Areas: Most comments did not specify which area(s) to close to night access. Several suggested closure only on the Russian River; others suggested closing the south side of the river at night to correspond with the ferry closure. – Some comments addressed closing only nighttime fishing; others suggested closing all access during specified night hours. – Rationale supporting nighttime closure: Bears may change use patterns and reduce their day use of the KRRC; reduced risk of encounters at night when visibility is poorer; night-time compliance with regulations and suggestions for reducing attractants is lower; and fish would move farther upstream and reduce concentration (and angler congestion) at the confluence. • Oppose nighttime closures. • More data and analysis needed regarding potential effects of a night closure, and whether it would be feasible to establish and enforce. • Filling a three fish limit before midnight and a new limit just after midnight encourages nighttime fishing.
Spatial Closures	Comments regarded potential spatial closures to fishing, camping or other uses at KRRC included: • It is appropriate to close areas as needed to reduce human-bear conflicts or potential for conflicts. • Alaska Recreation Management (ARM) should be given authority to more readily close an area, if necessary to respond to potential conflict. • Concern about too-readily closing an area and denying angler/recreation access. • Media announcements about any closure must be very specific and clear to avoid a perception that entire KRRC area or fishery is closed. • Specific areas suggested for possible closure included: – Cottonwood Hole - heavy consistent bear use; concern that anglers do not manage attractants well at this location. – Upper Russian River, above upper power line - trail is poor and steep; heavy bear use; fish cleaned and disposed of here are an attractant. – Consider closing area between Sportsman's Landing and Jim's Landing to camping, to avoid people fishing right next to campsite. – Consider a designated area for the "catch and release" fishery.

Topic	Comments re: Management Actions & Strategies
Bear Management	The following comments were provided on bear management: • Displacement: – Use hazing to discourage bears from frequenting area used intensively by people; discourage daytime use (e.g. rubber bullets). – Any displacement should be done by experts; consider use of trained bear dogs. – Do not support, or question effectiveness of hazing. • Relocation and/or removal: – Relocate (if possible) and remove problem bears (when necessary). Manage the bears, not the people. – Do not favor killing bears as a management measure. • Hunting: Increase brown bear hunting on Kenai Peninsula; consider overlap in hunting and fishing season; increase hunting in Kenai Russian River corridor. • Deterrence: Discourage use of gunfire as deterrent; promote use of bear spray, bear flares; make preferred deterrents available on-site. • Bear Surveillance: USFS should track bear movements and warn people bears are in vicinity. • Information on brown bear population: The public would like to have more information about brown bear population abundance and trends on the Kenai Peninsula, and about the number of bears that utilize the Kenai Russian River area.
Regulations	Comments regarding existing regulations at the Kenai-Russian River area included: • Support the consistent food storage regulations. • Retained fish regulation is ridiculous; cannot move to land fish and also keep within 12' of stringer. • Do not over-regulate anglers. • Prefer education over more regulation. • Important to have consistency in regulations on different land ownerships. Suggested additional regulations included: • Require all backpacks be on backs (not on ground). • Do not allow coolers on the ferry or on the Russian River. • Limit the amount of "baggage" brought down to river. • Require bear-proof storage of any salmon not under directly physical control of a responsible person. • Require bear-proof storage of any human food not under directly physical control of a responsible person.

Topic	Comments re: Management Actions & Strategies
Enforcement	Comments about enforcement at KRRC included: • Need to emphasize and increase enforcement of existing rules. Specific suggestions included: – Promulgate and enforce regulations to minimize improper handling and disposal of fish, fish waste and human foods. – Enforce rules in campgrounds; sets expected tone for use of entire KRRC area. – Increase weekend and holiday enforcement. – Address unregulated parking. – Enforce fishing licenses, limits. – Make penalties substantial, as deterrent. – Put law enforcement where there are usually bears (e.g. Cottonwood Hole, falls, confluence). – As alternative to fines, require volunteer service at KRRC. – Include public in enforcement.
Infrastruc-ture	Suggested improvements to KRRC infrastructure related to reducing attractants or potential for human-bear conflicts included: • Electric fencing around areas where bears must be excluded (e.g. tent campsites, fish cleaning tables, dumpsters). • Provide more bear-proof food storage & garbage containers in campgrounds and at dump stations (e.g. Sunrise). • Provide bear-proof containers for disposal of fish waste; remove/empty frequently. • Provide or rent out bear-proof containers for retained fish, convenient to the river. • Install remote toilets.
Trails / Visibility	Suggestions related to trails and visibility at KRRC included: • Clear vegetation to improve visibility on trails. • Raise boardwalks to improve visibility and possibly discourage bear use.

Topic	Comments re: Management Actions & Strategies
Funding for Implementation	More funding (or volunteer capacity) will be needed for implementation of management actions, scientific research & monitoring. Specific suggestions included: • Sockeye stamp or user fee ($5-$10) • Commercial Fishery Division contribution • Grant Lake mitigation funds (Homer Electric Assn.) • Expand use of volunteers
Area Capacity - Human Use	Consider capacity of the area for human use; there are too many people using the area for its current infrastructure and capacity. Specific ideas for accommodating current and future numbers of users included increasing capacity through additional infrastructure to safety handle the peak numbers of people who use the area during the fishing season, such as additional parking areas, camp sites, waste management facilities, rest areas. Specific ideas for reducing numbers of people visiting include: • Have people stop fishing after reaching limit of three sockeye. • Manage unregulated parking.

Summary of Public Forums: October 25-27, 2011 (Soldotna, Cooper Landing, Anchorage)

and Written Comments received Sept-Nov 2011

The US Forest Service (USFS) and US Fish and Wildlife Service (USFWS), in collaboration with the Alaska Department of Fish and Game and other members of the Russian River Interagency Coordination Group,[2] invited the public to assist management agencies in developing an effective five-year action plan to reduce human-bear conflicts in the Kenai-Russian River area. A second series of evening public forums was held in Soldotna, Cooper Landing and Anchorage on October 25-27, 2011.[3] A total of 32 members of the public (not including agency staff) attended the forums.

Agencies presented information from a Discussion Guide (also appended here), which presented information and asked the public questions regarding fish waste management, temporal (night-time) access closures, spatial access closures, bear management (behaviors and population), public education, regulations & enforcement, and infrastructure and trails & visibility.

Public comments were collected during large group discussion, in open house format, and on written comment forms provided to attendees. This document summarizes public input received at the three public forums, followed by a summary of written comments received at this stage of the planning process.

October 25 – Soldotna Public Forum

<u>Fish Waste Management</u>
General

- Effectiveness of waste management depends in part on the fish limits, which affects the quantity of waste that must be addressed and also affects what people will do (may be willing to carry out three fish, but not six or 25).
- People only rarely carry out whole fish – beats up fish to hike out with them. Most fillet on the bank. Carrying out also spreads smell along trail.
- Look at lower cost options that do not require staffing – perhaps that actually generate income from the waste
- Hire a contractor to take on finding a solution to fish waste and implementing the project (open house comment)

[2] Additional members of the RRICG include: Alaska Department of Natural Resources Division of Parks and Outdoor Recreation, Kenaitze Indian Tribe, and Cook Inlet Region, Inc.

[3] The first series of forums was held in Cooper Landing, Soldotna, Wasilla and Anchorage on April 17-21.

Marine Derived Nutrients

- Benefit to keeping MDN/fish waste going back into the river in the first run, to provide food for other fish? Is there a difference in MDN benefits in the first run vs. second run?
- Not in favor of off-site disposal; keep MDN in system.
- Grinding would change how long waste stays in the system and may affect MDN availability (concern MDN would flush out of system faster than larger pieces of waste)
- Traditionally, the Kenaitze Indian Tribe would return fish waste back to the river. Prefer onsite disposal that keeps fish waste and MDN going into the river.

On-Site Grinding & Disposal

- Consider mechanical (non-electric) grinder
- There is electricity at ferry; higher water flow at Sportsmans

Vendor Processing & Disposal

- Pulses of fish are caught; may not be economical business since not continual supply
- Is there potential to for an on-site vendor to offer to fillet and grind fish waste for other anglers, as a private business? (Speaker had been interested in offering this service in the past, but was dissuaded at that time.)
- If they give their fish to a processor, anglers want to know that the fish they receive back is the fish they caught (not equivalent amount from someone else's harvest).

Using Fish Waste for Another Product

- Fish head good food source – but needs to be cleaned the right way to use it. Could public be taught how to clean heads and then donate heads to elders, Head Start, etc.?
- Dog mushers may be interested in fish heads (their previous source now uses waste for fish oil production, so they have lost this source). Single dog musher might use 5,000 pounds.
- Fish waste + sawdust = compost or fertilizer
- Look into Fish and Chips compost product option; virtually odorless
- Upper Russian – offer fish cleaning stations with waste containers. Collect the heads/waste to use in another product.

<u>Temporal (Night-time) Closures</u>

- Not concerned about night closure – don't fish at night
- Night-time fishing is a way to avoid crowds. Closure would increase angler numbers in the daytime – increase crowding.
- In favor of night closure – traditionally, the Kenaitze did not fish at night; gave bears time on river without people
- Instead of nighttime, think in terms of closing "fishing in the dark"

- Consider closing fishing in the dark and monitor bear behavior over time to see effects. Perhaps close area from confluence to Upper Russian, especially second run. (Stated that Board of Fisheries would have to consider and act on a proposal to close the fishery).
- Favor closure in second run.
- Former local Advisory Committee saw several proposals for night-time closure – Board of Fisheries did not approve as it would reduce fishing opportunity
- Personally, favor night closure
- Anchorage fishers drive down and fish at night

Spatial Closures

- ARM supports the spatial closure downstream of ferry (established in-season in 2010 and 2011)
- ARM should have authority to close areas when needed for safety
- Would be concerned with a spatial closure on the upper Russian. This is important rainbow fishing.
- Concern that spatial closures imply that "bears are taking precedence" over human use – edging out human users. Do not support closing an area just because a bear is using it too.

Bear Management

- Concern if bear population and numbers at KRRC increase, human access will be further restricted
- If bears don't get the fish waste as food, what would the change be in their behavior and distribution? They are not live fishing.
- Good to hear that there is some recent data regarding population size on Kenai Peninsula.
- Not in favor of increased hunting at KRRC – actually would prefer a larger no-hunting corridor (not to hear gunshots)
- Late 1970s, black bear problems at Kenai-Russian River. Over time, it has changed to brown bear issues. Seeing this same change elsewhere on Kenai Peninsula (e.g., Swanson River)
- Surprised only 39 bears in the DNA study – would have thought many more would be drawn to the KRRC salmon
- Intent of no-hunting corridor along the Russian River in June and July (Board of Fishery adopted regulation) was to move hunters away from the river, to separate hunters from anglers.
- Consider extending this closure through August, for public safety.
- Suggest do aerial reconnaissance in the Upper Russian – see large number of brown bears /adult males. Increase hunting in Upper Russian to remove boars, create more space for sows and cubs up there (suggest they are avoiding predation by coming down to KRRC)
- Need to consider the effect of begin hunted on bears and their relationship with people. May make them more defensive and more likely to be in a conflict.

Education

- Liked the progressive "Burma Shave" signs
- "Plain clothes" educators trained to share messages and watch impact. Observe peer-to-peer education.
- Laminated Visitor Guide available at centralized areas, kiosks/sign boards
- On-site interpreters
- Central one-stop-shop interagency website with official information
- Scheduled Ranger Walk provided by USFWS and USFS interpreters – guided visit to area for non-anglers
- Apps (smart phones) available for visitors
- "Quick response" (QR) matrix barcodes on trail with links to videos of appropriate bear behavior, etc.

Trails / Visibility

- Fix up trail on the south side of Kenai River (across from ferry) so it encourages people to use the trail; higher public use of trail would discourage unlawful camping, fires and incursions (open house comment)

Bear Viewing

- Non-fishing visitors – viewing and photos – seems to be growing activity. If bear activity changes (in response to changes in fish waste management), this will change viewing opportunities. Where will people go to view bears?
- Tourist (international visitors, etc) and resident draw to view bears, due to ease of road access and predictable presence of bears
- Family members (of anglers) interested in viewing—includes children.
- Safety concerns
- Uncontrolled situation
- People respond inappropriately to bears
- For safety – need a controlled experience with guide (e.g. Wolverine, Katmai)
- Perhaps set up a viewing platform – controlled access
- Need to be proactive, as this will likely grow
- Viewing may provide economic boost for locality
- Concern KRRC is not an appropriate place to encourage bear viewing
- Concern that you can not sufficiently educate people coming to view bears
- Opposed to eliminating attractants, since having bears in the area provides bear viewing opportunities (open house comment)

October 26 – Cooper Landing Public Forum

Fish Waste Management

General

- It is a human-created problem and it is our responsibility to solve it
- Experiment with solutions
- In June-July, fish waste is the primary food source for bears, not spawned carcasses (until mid-August)
- Bears are not live fishing

- Subsistence fishers fillet onsite and put carcasses in Russian River. Constricted; fish waste/carcasses hang up. However, hauling fish from this location is a chore.

Marine Derived Nutrients

- Need to consider the relative importance of MDN to the Russian River system, which is much smaller system than the Kenai

On-Site Grinding and Fish Waste Disposal

- Like idea of electric grinder, but it would need to be staffed
- Perhaps allow people to drop off waste for later grinding
- Especially favor hydro-powered/battery (no electricity required)
- Locate grinder(s) at locations with high angler use – Grayling? Pink Salmon?
- Need to think about where there is electricity
- Schooner Bend is an administrative site (offices) – this would not be a good location for visitor access (e.g. to access a grinder)
- Staff at grinder could have multiple purposes – education / enforcement; have them multi-task
- Consider having waste disposal in certain areas, where bears could go for food
- Chopping up or grinding the carcass will change what is available to bears in terms of preferred body parts (e.g. they like fatty head first)

Manual Removal of Accumulated Fish Waste

- Manual removal seems effective
- Puts staff in one-on-one contact with anglers – can educate them
- Keep this as an option as part of a fish waste management plan
- At Guardrail, seagulls drag fish waste (large pieces) to bank – later bears come in to feed

Off-Site Disposal of Fish Waste

- Oppose taking first run fish waste off of the river – especially eggs which are an important food source for rainbow trout
- Coordinate with City of Kenai or Kenai Peninsula Borough – they have fish waste issues at mouth of Kenai that need to be addressed and can partner with them on disposal solutions
- Look at Martin's campground (Diamond M Ranch) near mouth of Kenai River – they provide place for people to clean and vacuum-pack fish. Ask them where they dispose of waste. (Sport Fish staff believes they compost some, landfill some).

<u>Temporal (Night-time) Closure</u>

- Any temporal or spatial closure will increase congestion in other areas and at other times
- Potential to increase conflict among public and between public and guides
- Congestion and conflicts particularly an issue during first sockeye run, where there are few prime locations to fish
- First run, it is not really getting dark (dusky for two hours or so)

- If there is a night-time closure, MUST reopen by 4 am
- At opening time, there will be congestion at the ramp as people try to get into river
- Second run there is a lot more place to catch fish so less congestion and competition; it is also darker during the second run and night closure may make more sense
- Don't close at night – that is when I have time to fish; avoid crowds
- Locals fish Russian River at night to avoid crowds
- Every hole has people on it at night on the Russian River – perhaps 50 people per night
- Russian River is dangerous at that time of day, visibility down; OK for people with experience – but people who are not experienced can get into trouble
- Concern about human-human conflicts with people who have been fishing/partying at night. Concern about weapons. In favor of some sort of closure to discourage full night use/partying/behaviors that exacerbate conflicts – even it if is just a short time in middle of night
- Would have to increase enforcement – there will be a staffing cost
- Look at data about statewide human-bear conflicts – when during 24-hour cycle do most maulings occur? This would help substantiate need for nighttime closure.
- Assumes it would change hours that bears use the river; Tag/follow (GPS) bears to see any changes in behavior / visitation.
- If the temporal closure was over early (about 4am) including area below Sportsman's Landing down to Jim's Landing, guide would not have a problem with that (open house comment)

<u>Spatial Closures</u>

- Any temporal or spatial closure will increase congestion in other areas and at other times
- Make sure any spatial closures are clearly defined and understood by the public – make it a geographic area they can recognize on the ground

<u>Bear Management</u>

- Concern there will be an increase in aggressive bear behaviors if they are not getting food (e.g. at Guardrail; bears interested in food only, no conflicts).
- Aerial view of Upper Russian – see lots of big brown bears in that area; abundance of boars could be causing sows and cubs to more heavily utilize Kenai-Russian River area.

<u>Education</u>

- Still seeing human behaviors that don't make sense; harassing bears, trying to move them off of the spot they are using
- Staff need to be trained to give consistent messages; especially important for ARM staff and campground hosts; provide them consistent key talking points
- Van interpreters in the campground to talk with campers
- Instruct visitors on how to deal with human waste

Regulations & Enforcement

- Make sure regulations are coordinated and consistent on USFS and USFWS land to avoid public confusion
- Put more enforcement staff; multi-purpose staff (e.g., give person operating the grinder enforcement authority)
- Above 600 yd marker – anglers on bank – many are snagging

Infrastructure / Campground / Facilities

- Traffic pattern in campground is a problem – access problems for emergency responders
- People are cleaning fish in campground (they "take out whole" then bring it there to clean and dispose; consider need for processing and waste disposal center in campground

Trails & Visibility

- Public use is increasing upstream of the angler trail. Trail reconditioning may be warranted, but also recognize that if the trail is improved, it will attract more use.
- Guide thinks that improving the trail on the opposite side of the Kenai River from the ferry would encourage more use, including camping, fires (open house comment)

October 27 – Anchorage Public Forum

Fish Waste Management

General

- People won't walk far to deal with their fish; must be convenient or won't work
- Parking congestion issues will be associated with centralized processing or waste disposal; people won't walk to do this
- Different options would be needed above access #32 / 600 yard marker / closer to falls – too far to bring fish
- Subsistence fishers take more fish per person – suggest use stop-chop-throw for subsistence fish, but ask them to chop into much smaller pieces; everyone who fishes that far up in the system fillets their fish onsite

On-Site Grinding & Disposal

- Favor on-site disposal of fish waste; concern removal of fish waste will sterilize the Russian River; need to keep nutrients in the Russian River as food source for rainbow trout
- Grinding might work as one element of processing/disposal; provide at convenient locations
- Like this option, with several stations (Grayling, Pink Salmon) – with electric grinder and discharge into RR (suggested pulse of discharge, e.g. at midnight) – puts waste back in river
- Grinders / processing areas would need to be bear proof / use electric fencing

Manual Removal of Accumulated Fish Waste

- Manual removal of fish waste worked well, kept shorelines clear
- Stop/chop/throw can work – especially if augmented by manual removal of fish waste accumulation from shoreline
- Use stream watch volunteers to do manual removal and talk to / educate anglers at the same time

Paying for fish processing and disposal

- Rather than charging a fee – offer an incentive (e.g. lower parking fee; free freezing/storage while camping)
- Willing to pay for disposal if it fish waste goes back to river (important to return to river)
- General public will not want to pay – another incentive might be to hand out heavy duty plastic bag for their fish
- Raise campground, parking and ferry fees to generate revenue to cover costs of fish waste disposal

Temporal (Night-time) Closure

- Any closure should be the exception, not the rule
- Anchorage residents fish late at night; would limit their access
- Night is the best time to get fish (outside of the sanctuary); fish do move up out of sanctuary at night (11pm-4-5am); a closure would reduce this opportunity
- Consider closing only areas farther upstream (e.g. Upper Russian)
- Complicated to enforce; what if people stop fishing at prescribed time at falls, but take two hours to walk out. Would they be cited?
- Had previously supported night-time closure, but now concerned not enforceable

Spatial closure

- Consider in-season closures at Cottonwood Hole and forested area downstream of ferry, as needed

Bear Management

- Adult boars upstream prevent sows and cubs from using that area, they move down to Kenai-Russian River area; increase harvest of boars in upper Russian area.[4]
- Should manage bears and keep them out of the area, rather than focus on managing human behaviors

Education

- ARM contact station is not providing current information about sightings of bears and other important information; need to improve this consistent communication (open house comment)

[4] Information provided by ADFG – Up to 50 permits for brown bear harvest are issued each year in Game Management Unit (GMU) 15, and up to 50 permits in GMU 7. In 2012, ADFG will issue 50 permits in GMU 15 with focus near populated areas.

- "Person in uniform" told visitor not to approach any wildlife closer than 100 yards; this information was too broad, not specific instructions on how to react to bears who approach to closer distances (open house comment)

Summary of Written Comments (Received September - November 7, 2011)

Fish Waste Management

- Current strategy - Not working; anglers above power line will not go to confluence. Need to allow chop and throw at other locations.
- Current strategy - Stop-Chop-Throw - require this, or take out whole. Enforce it.
- Current strategy - Take out whole – do this
- Current strategy - I do as asked and take fish to mouth to clean & dispose; but am in the minority
- Grinder - Favor only mechanical grinder at ferry.
- Grinder - costly; will not alleviate human/bear conflicts; "idiotic"
- Grinder - support this
- Grinder – favor onsite grinding/disposal to river
- MDN – want on-site disposal only
- MDN - keep all MDN in Russian River
- MDN - dispose of waste in river
- Manual removal – Like this, but understand it's not the perfect long-term solution.
- Offsite disposal – do not landfill the fish.
- Offsite disposal – will just cause problems elsewhere.
- Offsite – favor reuse for another product (with onsite processing center and waste then collected)
- Fees / Incentives: Would NOT pay for fish waste mgt. services.
- Fees/ Incentives: add fee to parking/access; rebate if they use the grinder
- Fish cleaning facility sounds too expensive.
- Tables - Need more fish cleaning surfaces on Russian River
- Vendor – offer fillet services

Temporal (Night-time Closure)

- No - night closures on Russian River
- No - do not support night closures
- No - Not necessary. Put up better signs (reflective) regarding nighttime bear safety.
- Yes - Support night-time closure; 11pm-6am; leave for bears to use; no need to fish/walk River late at night
- Yes - Support night-time closure; midnight-4am
- Yes - Support night-time closure; midnight-5am; minimize risk of bear encounter and vandalism.
- If done, close sanctuary on alt. days
- Worth further research. Not sure number of people using river at night warrant it.

Spatial Closures

- Russian River must be closed to all fishing. To use trails (to access lake to fish), require guided by state ranger. Would also protect river habitat/spawning areas.
- Close around grinders
- Close as-needed inseason; no systemwide closure.
- Close as-needed inseason. More signs, more enforcement.
- Close both rivers to fishing when bears are feeding; human encroachment is the problem.
- Cottonwood Hole is an area where there are potential problems (did not suggest permanent closure, however).
- No spatial closures on Russian River

Bear Management & Hunting

GENERAL

- Manage people, not bears.
- Try to leave the bears alone!
- Have not seen bears initiate significant problems; interested in fish, not people.
- Too many anglers to manage the situation. ADFG enhanced salmon run to quadruple return, and lost control of situation.
- Coexistence of humans and bears won't work; either make it a bear sanctury or a place for human use.

FIREARM USE / DETERRENTS

- Promote non-gun bear deterrents. Fine people who discharge fire arms.
- Deterrents – loud bell
- Ban firearms in campground and on river.
- Deterrents - encourage use of aversive conditioning that is nonlethal and effective (e.g. bear spray; tazers?) Dispense on-site.

BEAR POPULATION / HUNTING

- Bear population too high; remove few large boars to sows and cubs not pushed into KRRC.
- Bear population too high; remove 25-30 bears from area.
- Need a balance where bears are provided a safe area, but bears in areas used by humans know they are at risk. More hunting until bear population on peninsula is reduced.
- Increasing bear hunting would only create other problems.
- Do not attempt to relocate bears.

Education

- Good new Visitor Guide; Stream watch personal contacts good; create video (optional, not required)
- Scheduled river walks with Ranger great idea.
- More signs.
- Improve "fish on" radio station.
- Weekly river info newsletter to those who sign-up to receive via email (fishing

report, updates on bear sightings, safety/educ tips)
- Visitor Guide awesome and interesting.
- More public education needed (Streamwatch, pamphlets at check-in and ferry)
- PSAs on TV & radio; ads (bus side, other places)
- Need to educate people about responsible actions (not approaching, surrounding bears); keeping an escape route for themselves in case of incident.
- Require on-line bear school (w proof of completion required for area use)
- More one-on-one education; ARM check station with consistent message; nighttime campfire programs.
- Educate people on how to avoid snagging fish.

Regulations

- Amenable to whatever restrictions needed to provide this place to people for generations to come.
- Don't care for suggested additional regs.

Enforcement

- Write tickets; charge fines.
- Have a hotline number for tips on non-compliance.
- Enforce regs so they are followed. Has improved in recent years.
- Enforce fish waste management requirements (not voluntary)
- Enforce existing regs
- Install cell tower so anglers can film/photo & text/email violations
- Russian River is a paradise for poachers; increasing problem; violate fishing regs/harvest everything they catch
- Must have enforcement (education not sufficient).

Infrastructure

- Do not need centralized cleaning, cooking facilities.
- Food storage bins at each campsite big improvement.
- Need toilet facilities (composting)
- Electric fencing to funnel bears away from anglers
- More parking with shuttle

Trails / Visibility

- Appreciated 2011 thinning
- Great improvement in 2011 to White Trail / Canyon. Thin vegetation more below falls.
- Trim vegetation at bottom of staircases

Other Issue

- Limit number of fishing guides on the river; they lobby for their own interests.

Kenai-Russian River Collaborative Public Process
Discussion Guide for October 25-27, 2011 Public Forums
Soldotna, Cooper Landing, Anchorage

The US Forest Service and US Fish and Wildlife Service, in collaboration with the Alaska Department of Fish and Game and other members of the Russian River Interagency Coordination Group (RRICG),[5] have invited the public to assist the agencies in developing a five-year action plan to reduce human-bear conflicts in the Kenai-Russian River area (referred to as the "Kenai-Russian River Complex" or KRRC in this document). Minimizing human-bear conflicts and related public/employee safety is the primary concern of the RRICG, while providing recreation opportunities and conserving fish and wildlife resources. Reducing availability of disposed fish carcasses as a potential food source for bears in the area, as well as other human derived food sources and bear attractants, is a mutual objective.

In meetings held in April 2011, the public shared ideas about management actions they think would reduce the occurrence of human-bear conflicts at the KRRC.[6] The management agencies have been considering suggestions made by the public – and now have more information to share about which management actions may be most appropriate and effective to use in the area in the next five years.

A second round of collaborative public forums is scheduled for the evenings of October 25-27 in Soldotna, Cooper Landing and Anchorage. Agencies will share the evaluation they've done to date about different management options and invite public discussion in both large group and open house formats. The RRICG's analysis is not complete and they are still considering the pros and cons of many different options. It will be very helpful to discuss their initial findings and considerations with the public at this stage of the planning process.

After the public meetings in October, the RRICG will develop a five-year action plan and monitoring strategy that identifies specific actions to be implemented at the KRRC from 2012 through 2016, considering input from this collaborative public process. Final actions and strategies will be evaluated based on their effectiveness, feasibility, appropriateness (relative to other mandates that guide management of the area), and cost effectiveness. Additional criteria may be used.

The public is invited to:

- **Review this Discussion Guide** to see what types of management actions are being considered for the Kenai-Russian River area and to spark public discussion about what some of the pros/cons of those different options would be.
- **Attend a public forum** on October 25 (Soldotna), October 26 (Cooper Landing) or October 27 (Anchorage) to participate in discussion about management

[5] Additional members of the RRICG include: Alaska Department of Natural Resources Division of Parks and Outdoor Recreation, Kenaitze Indian Tribe, and Cook Inlet Region, Inc.
[6] Go to https://projects.ecr.gov/kenai-russianriver/ for summary of meetings and comments.

actions that may be proposed for the Kenai-Russian River area. Each evening forum is scheduled for 6:00-9:00 p.m. Location details on project website.

- **Visit the project website** at: https://projects.ecr.gov/kenai-russianriver/
- **Submit a comment via email or mail**: Email your comment to comments-alaska-chugach-seward@fs.fed.us Please put "Kenai-Russian River Comment" in the email's subject line. Or, you can mail a written comment to Jan Caulfield, 114 S. Franklin St., Ste. 203, Juneau, AK 99801
- **Tell people about this public process** and encourage them to become involved.
- **Email the project's facilitator**, Jan Caulfield at janc@gci.net with questions about the public process.

Discussion Guide

This document is intended to help guide discussion during the October 25-27 public forums – and also to stimulate public comments (see ways to comment, listed above). Each major topic area raised by the public during the April 2011 public forums is addressed.

Topic Areas

For each topic, the Discussion Guide presents three sections of information:

I. **Summary of public comments** (from April 2011 public forums and comments submitted since that time).

II. **Summary of the work agencies have done to initially evaluate the comments and suggestions** – and considerations to discuss with the public. Options are being evaluated in terms of effectiveness, feasibility, appropriateness, cost, and other considerations. *For most topics, a preliminary finding or agency recommendation is presented for public response.*

III. **Specific questions to discuss with the public** at the October 25-27 forums.

Topic: Fish Waste Management / Disposal

I. Public Comments / Suggestions (from April public forums and emails)

The wide range of public comments related to fish waste management has included:

- General – Fish waste management needs to be clearly addressed and the public well educated about what is required or recommended.
- Grinder: Pursue mechanical grinder technology; install at location(s) that will be convenient to and used by anglers (e.g. at fish cleaning tables).
- Vendor: Work with vendor/concessionaire to collect fish waste and reuse/dispose; may provide fish cleaning / freezing services; business may be able to use waste profitably and fund their services.
- Facilities: Provide facilities to support fish cleaning and disposal (e.g. fish cleaning house at campground); need water at these locations.
- Fish cleaning tables:
  - Offer more cleaning tables at strategic locations.
  - Specifically, put tables back on the Russian River.
  - Keep tables off of the Russian River.
  - Adjust table locations as necessary for changing conditions (e.g. water flow).
- Manual removal of carcasses: Support this, especially in low water years when carcasses accumulate; requires funding and/or volunteers.
- Fish waste disposal:
  - Return waste to stream system; important nutrients for ecosystem (e.g. rainbow trout productivity).
  - Identify appropriate disposal locations and facilities or infrastructure; coordinate with other agencies and Borough.
  - Consider disposing of waste in-river away from high public use areas (either upstream or downstream), to attract bears away. Several specific locations were suggested.
- Take Out Whole:
  - Asking people to take fish out whole *is not* working – There is concern that many people are not opting to take their fish out whole; or are taking their fish out of the KRRC but are disposing of the waste improperly elsewhere
  - Asking people to take fish out whole *is* working
- Stop/Chop/Throw:
  - Stop/Chop/Throw *is not* working and should be reconsidered – issues with waste size, increases bear interactions with human since bears cannot grab a whole carcass and retreat to forest cover
  - Stop/Chop/Throw *is* working

- Monitoring of fish waste management strategies: It will be difficult to monitor the effectiveness of different fish waste management strategies; many variables (run size, water level).

II. Initial Evaluation of Management Options

Current Fish Waste Management Approach at the KRRC: Anglers are currently asked to take out fish whole and/or gut & gill, and responsibly dispose of carcasses off-site. If anglers prefer to fillet their harvested fish onsite, they are encouraged to take fish to the cleaning tables provided at the confluence and ferry and to chop (into numerous pieces) and throw into fast moving currents (also referred to as "Stop, Chop and Throw"). Infrequently, agencies have manually removed fish carcasses and waste that accumulates along the shore (manual removal was used only one day in 2011 season).

Quantity of Fish Waste to Manage: The estimated annual weight of fish waste generated in the KRRC averages 114,000 thousand pounds (minimum 58,000; maximum 179,000 thousand pounds), based on harvest data from 1991-2010.[7] Approximately 25% of the harvest takes place in the clear waters of the Russian River and 75% on the Kenai River main stem.

Consideration of Marine Derived Nutrients (MDN): Adult salmon returning to spawn transport nutrients from marine to freshwater ecosystems. MDNs provided by returning salmon play an important role in freshwater and terrestrial ecosystem production, as well as future salmon production. Sockeye, Chinook, coho, and pink salmon spawn throughout the Upper Kenai River watershed and contribute a significant amount of MDN (through deposition of eggs and carcasses) to the watershed. The amount of MDN contributed by fish waste generated by the sport and subsistence sockeye fisheries in the Kenai-Russian River confluence area represents a relatively minor component of the overall MDN provided by all species of salmon in the Upper Kenai River watershed, and would not likely be a primary determinant in management decisions regarding fish waste management at the KRRC.

A. Management Options for Further Consideration

In response to public input, the agencies have been evaluating a number of options for management of fish waste (see six options listed below) – and it may actually be most effective to implement a combination of these options in the Kenai-Russian River area. Implementation would likely require additional staffing, new infrastructure, targeted public education, and/or new regulation(s).

Preliminary Finding – Additional efforts are needed for fish waste management at the Kenai-Russian River area to reduce availability of disposed fish carcasses as a potential food source for bears. At this stage in their evaluation, the agencies are most interested in a combination of options for on-site disposal of fish waste, but off-site disposal options

[7] These estimates are based on data of the average, minimum and maximum harvests in the Russian and Kenai Rivers (1991-2010), and the assumptions that approximately 10% of fish would be taken out whole and cleaned elsewhere and that each fish cleaned at the KRRC would require disposal of an average of 2 lbs. of fish waste at the area.

are also being considered. However, agencies are eager to hear the public's comments regarding all of the options discussed below – and any additional ideas for fish waste management.

Under any of the fish waste management options being considered, the angler would always have the option of taking their fish away whole, to clean it and dispose of fish waste responsibly (as defined by solid waste standards in local area).

Option 1 – On-Site Grinding and Disposal into the Kenai River

Agencies are investigating options for grinding fish waste on-site with either a hydro-powered or electric grinder, and disposing of the ground waste it into the Kenai River. Considerations include:

- Location of one or more grinders – need to select location(s) with adequate angler access, parking, any necessary utilities.
- Need to determine whether it is better to have central location(s) for grinder(s) where anglers bring their fish to clean it and dispose of waste, or to have staff collect waste from decentralized cleaning/disposal locations and bring it to a central grinding facility.
- Location of grinder(s) or waste receptacles needs to be convenient for anglers, to promote proper disposal. Fish cleaning surfaces would be provided with any grinder or receptacle site to aid in the proper disposal process.
- Possible need for staff to monitor or undertake the waste disposal to ensure nothing goes into grinder that would damage it. Costs of staffing have not been estimated.
- On-site disposal of ground waste (small chopped pieces, but not slurry) into the river would require a permit from the Alaska Department of Environmental Conservation (DEC). DEC is developing a proposal to permit disposal of fish waste in freshwater, but not expected to be available to permit this activity until June 2012.

1A. Hydro-Powered Grinder(s)

- Design work is underway for a floating paddlewheel device to power a grinder.
- The hydro-powered grinder may work well on the Kenai River main stem (e.g., at Schooner Bend, which has existing access road). It would not work well on the Russian River.
- This option may not be bear resistant due to its unenclosed design.
- Cost has not yet been estimated.

1B. Electric-Powered Grinder(s)

- A centralized, enclosed grinding and waste disposal station with electric grinder is being considered.

- Construction cost estimated at $13,000 not including site preparation costs for building installation. Building (e.g., 8x20' metal shipping container) would be needed. Facility would likely need staffing; staffing costs not yet estimated. There would also be increased costs for utilities and long-term maintenance of this new facility.

Option 2 – On-Site Disposal – Manual Carcass Removal

Under this option, a crew would use rakes/shovels to manually push fish waste that has accumulated onshore into deeper, fast-moving water to assist in flushing the waste into the main stem Kenai River (covering the area from the falls down to the powerline, on both sides of the river). Staffing costs would depend upon the number of days/season this is required.

Some management agencies view manual carcass removal as an option that would be used only during a transition to another fish waste management approach, and don't view it as a long-term solution. Others suggest that augmenting the current fish waste disposal practice ("take it out whole", gut/gill only, or "stop, chop and throw") with removal of accumulated waste could be effective. The agencies will discuss this further during development of the five-year action plan, and welcome public comment.

Option 3 – Off-Site Disposal – Potential Fish Waste Utilization in a New Product

Agencies are considering options for transporting fish waste to an offsite location for grinding and disposal at an existing fish waste processing facility or for use in producing another product (e.g., fertilizer). Considerations include:

- Bear-proof fish waste receptacles would need to be picked up at the KRRC and transported daily to off-site facility (less frequently if refrigerated receptacles used). This would affect staffing costs.
- Location of receptacles would need to be convenient to anglers and combined with fish cleaning surfaces to promote proper disposal.
- Waste would need to be sorted to remove non-fish waste items to ensure no damage to grinding equipment. (It is expected that this would be accomplished by the waste processing facility).
- The cost for this option is estimated at approximately $24,000 for transport, grinding and disposal of 114,000 lbs. of fish waste at an offsite facility (average year). Estimate does not include cost of installing collection sites and receptacles, and staff time collecting and transporting waste.
- To create enough volume to make fish waste utilization economical (producing a secondary product such as fertilizer), it would be necessary to combine waste from the Kenai-Russian River with other entities to collect a higher volume.

Option 4 – Offsite Disposal – Solid Waste/Refuse Facility

Under this option, fish waste from the Kenai-Russian River area would be dewatered (drained) and disposed of at the Kenai Peninsula Borough landfill. Considerations include:

- Disposal quantity would be limited to 1,000 lbs. per week (not nearly sufficient as a stand-alone solution for waste disposal. However, this option could be considered in combination with other approaches.).
- Bear proof receptacles / collection site(s) needed.
- Cost for disposal of 1,000 lbs/week is estimated at $612, including transportation. Cost for staffing or contractor to collect and transport waste has not been estimated.

Option 5 – Offsite Disposal – Vendor

Arrange for a vendor to collect fish from anglers on-site (possibly a mobile unit), process and/or store fish, and dispose of waste off-site. Considerations include:

- Uncertain whether a processor would be interested in and able to provide processing services for sufficient quantities to effectively address fish waste management needs. However, this option could be considered in combination with other approaches.
- Convenience for anglers and campers (e.g., freezer storage).
- Need conveniently accessible collection site; parking and crowding considerations.
- The cost for this service would be user-funded; there may be public costs associated with providing collection site location, etc. Costs have not been estimated.

Option 6 – On-Site Processing Facility for Angler Use

Agencies are considering construction of a self-service processing facility for angler use. Freezer storage could also be considered as a service for campers. The facility could be installed on- or off-site. Considerations include:

- Providing a fish cleaning facility could encourage cleaning of fish away from river and proper disposal of waste.
- Disposal of waste generated by the facility would be required, either on- or off-site.
- Facility would need to be located with adequate parking, angler access, and utilities.
- Facility construction cost could range widely, from $25,000 to $2 million, depending upon design and features. Costs would also have to consider cost of waste disposal (e.g., transport and dispose off-site, or grinding/pumping for on-site in-river disposal). Facility would need to be staffed; costs not yet estimated.

Utility costs and long-term maintenance costs would also need to be estimated and considered.

B. Options Not Recommended for Further Consideration

Based on evaluation to date, the following options are not recommended for further consideration in the five-year action plan:

- Fish waste management strategies used in 2010 and 2011 are not enough. The amount of fish waste that is still being regularly obtained by bears is a continuing problem.
- Attract Bears Away from KRRC – The agencies discussed a suggestion made by the public to dispose of fish waste at other locations to attract bears away from the highly used Kenai-Russian River area. However, they determined that this could cause public safety and other problems elsewhere and will not further consider this option.

III. Key Questions for Discussion at October Public Forums

- Which of the six options identified for further consideration (section II-A above) do you think would be the most effective on the Kenai and/or Russian River, considering both the sport fishery and the federal subsistence fishery? Why?
- Are there other options you would recommend?
- What location(s) would be best for the option(s) that you are recommending?
- Would you be willing to pay for these types of fish waste management services? If so, how much is reasonable to expect a n angler to pay?

Topic: Temporal (Nighttime) Closures

I. Public Comments / Suggestions (from April public forums and emails)

Comments about temporal closures (closing all access during specified time periods) as a management tool at KRRC included:

- Support considering nighttime closures. The following points were raised by those suggesting that nighttime closures be considered:
  - Times: Consider closing access for human use at 11:00-12:00 pm and reopen between 4:00-6:00 am.
  - Areas: Most comments did not specify which area(s) to close to night access. Several suggested closure only on the Russian River; others suggested closing the south side of the river at night to correspond with the ferry closure.
  - Some comments addressed closing only nighttime fishing; others suggested closing all access during specified night hours.
  - Rationale provided by members of the public supporting nighttime closure: Bears may change use patterns and reduce their day use of the KRRC; reduced risk of encounters with bears at night when visibility is poorer; nighttime compliance with regulations and suggestions for reducing attractants is lower; and fish would move farther upstream and reduce concentration (and angler congestion) at the confluence. Concerns about public, employee and emergency responder safety were also mentioned.
- Oppose nighttime closures. Other members of the public expressed their opposition to nighttime closures as they do not think it would be a necessary or effective tool for reducing human-bear conflicts and would unnecessarily restrict angler and other visitor access to the KRRC and fishery.

II. Initial Evaluation of Management Options

Preliminary Finding – In developing the five-year action plan, the RRICG will continue to evaluate the pros and cons of establishing a nighttime closure to access (not just closing to fishing). No preliminary findings or decisions have been made at this point. More data and analysis is needed regarding potential effects of a night closure, and whether it would be feasible to establish and enforce.

Considerations include:

- Affect on visitor access and use – The agencies are collecting data to estimate how many users would typically be affected if access to the Russian and/or Kenai Rivers was closed during selected nighttime hours. This information is not yet available. Effects on users who enter the Kenai River upstream from the KRRC and float through the area would also need to be considered.

- Potential effectiveness in reducing human-bear conflicts – A nighttime closure would reduce the exposure of humans to bears in low light conditions, which

may reduce potential for human-bear conflicts – particularly if instituted in areas with dense vegetation and poorer visibility.

However, it is uncertain whether and how a nighttime closure would affect bear distribution, behavior and times of bear activity in the KRRC. Some people suggest that a nighttime closure would allow bears to use the closure period to obtain food without human interference, and expect that the bears would leave the area when human users arrived in the early morning. However, this has not been tested and it is unclear whether establishing a nighttime closure would reduce the presence of bears on the rivers during the day.

If a nighttime closure were to be instituted, it would need to be carefully evaluated under experimental conditions to see what the effects are on both bear and human use and behaviors. Using cameras to document bear activity during day and night hours prior to and during implementation of a nighttime closure may be useful to evaluate its effects.

- Potential affect on fishery – If angler effort were lowered at night (e.g., due to a nighttime closure), it is unlikely the closure would significantly alter when the escapement goal is attained or distribution of fish in the system. In general, it does not appear that adult sockeye salmon migrate primarily at night. Sockeye salmon do not consistently appear in greater numbers at night at the Russian River weir, nor at the Kenai River sockeye salmon sonar site.

- Location - If pursued, a nighttime closure could be applied to the entire KRRC or to selected sub-areas (e.g. only the Russian River from the confluence to the falls).

- Enforcement - If a nighttime closure was instituted, a change in scheduling of enforcement personnel would be required and additional personnel may be needed (costs have not been estimated).

- Timing – If implemented, it would be optimal to set a consistent time for a nighttime closure that would apply during the entire season, to minimize potential for confusion. Timing considerations would include the current patterns of human use (data not yet available), and the optimal timing for meeting the objectives of reducing human-bear conflicts during low light conditions while allowing for early morning access to the fishery.

- Costs – Any additional costs that might be associated with a nighttime closure (e.g. increased public education, increased staff for enforcement) have not been estimated.

- Note that some members of the public recommended a nighttime closure as a means to potentially reduce illegal behaviors (e.g., snagging, camping outside of campgrounds, fires). However, these issues are not related to the objective of the five-year action plan, which is to reduce the potential for human-bear conflicts.

III. Key Questions for Discussion at October Public Forums

- What is your overall reaction to a possible a nighttime closure to all access at the KRRC as a means to reduce the potential for negative human-bear conflicts?
- If you support the idea of a nighttime closure, what dates and hours would you suggest? Why?
- If you support a nighttime closure, do you suggest it apply to the entire KRRC area or just to specific locations? Which locations?

Topic: Spatial Closures

I. Public Comments / Suggestions (from April public forums and emails)

Public comments regarding potential spatial closures to fishing, camping or other uses at KRRC included:

- It is appropriate to close areas as needed to reduce human-bear conflicts or potential for conflicts.
- Alaska Recreation Management (ARM) should be given authority to more readily close an area, if necessary to respond to potential conflict.
- Concern about too-readily closing an area and denying angler/recreation access.
- Media announcements about any closure must be very specific and clear to avoid a perception that entire KRRC area or fishery is closed.
- Specific areas suggested for possible closure included:
  - Cottonwood Hole - heavy consistent bear use; concern that anglers do not manage attractants well at this location.
  - Upper Russian River, between access point 32 and the falls – The trail here is difficult and steep; heavy bear use; fish cleaned and disposed of here are an attractant.
  - Consider closing area between Sportsman's Landing and Jim's Landing to camping, to avoid people fishing right next to campsite.

II. Initial Evaluation of Management Options

<u>Preliminary finding</u>: Based on initial evaluation, it is recommended that agencies continue to close discrete areas only as needed in-season. Decisions to close an area would be made by land management agencies, based on clear criteria and to achieve a specific outcome of reducing human use of areas where the risk of an adverse encounter with a bear is particularly high. The five-year action plan must include a clear procedure for deciding on the need for a closure, with clear criteria.

The agencies do not recommend permanent closures for any specific areas. Closures should be made on an as-needed basis to respond to specific threats.

III. Key Questions for Discussion at October Public Forums

- What is your reaction to continuing to close discrete area to public access in-season, as necessary to avoid human-bear conflicts? (For example, in 2010 and 2011 the forested land along the Kenai River, downstream of the Ferry crossing has been closed to avoid such conflicts).
- Would you suggest other areas that should be considered for in-season closure to avoid human-bear conflicts?

Topic: Bear Management (Behaviors & Population)

I. Public Comments / Suggestions (from April public forums and emails)

The following public comments were provided on management of bear behavior and the overall bear population:

- Information on brown bear population: The public would like to have more information about brown bear population abundance and trends on the Kenai Peninsula, and about the number of bears that utilize the Kenai Russian River area.
- Displacement:
  - Use hazing to discourage bears from frequenting area used intensively by people; discourage daytime use (e.g. rubber bullets).
  - Any displacement should be done by experts; consider use of trained bear dogs.
  - Do not support, or question effectiveness of hazing.
- Relocation and/or removal:
  - Relocate (if possible) and remove problem bears (when necessary). Manage the bears, not the people.
  - Do not favor killing bears as a management measure.
- Hunting: Increase brown bear hunting on Kenai Peninsula; consider overlap in hunting and fishing season; increase hunting in the KRRC.
- Deterrence: Discourage use of gunfire as deterrent; promote use of bear spray, bear flares; make preferred deterrents available on-site.
- Bear Surveillance: USFS should track bear movements and warn people bears are in vicinity.

II. Initial Evaluation of Management Options

A. Management Options for Further Consideration

Preliminary findings – Agencies are preliminarily recommending the following actions regarding bear management at the KRRC:

- Continue to address situations with nuisance, habituated and/or dangerous bears at the KRRC as required. Continue and improve interagency communication and coordinated implementation of agency responses to these situations.
- Efforts to enumerate and identify brown bears using the KRRC should continue, to inform management actions and provide baseline information.
- It is beneficial for agency personnel to keep track of bear encounters and sightings in an attempt to inform anglers in the immediate vicinity of known activity and to use information for in-season adaptive management (for example, to establish a needed area closure or to address a nuisance or dangerous bear).

- Educational messages must be developed regarding how to respond to bears in the vicinity and regarding bear deterrents that are most appropriate and potentially effective at the KRRC, particularly with regard to the responsible use of firearms and concerns about public safety when visitors to the area use guns to deter bears. Use of deterrents other than firearms should be encouraged.

B. Options Not Recommended for Further Consideration

Based on evaluation to date, the following bear management actions are not considered to be practical or likely to be effective in reducing potential for human-bear encounters at the KRRC:

- Hazing is time and personnel intensive and has a low success rate. Bears can easily move to avoid hazing. Successful hazing of bears would require full-time staffing of qualified personnel.
- Use of trained "bear dogs" would not be appropriate for the KRRC area. Dogs chase the bears, and with several campgrounds and a busy road in the vicinity, the probability is high that bears could be chased into groups of people and/or cause car collisions or other accidents.
- Relocation has been attempted many times to move bears away from problem areas, without success. In nearly all cases, the relocated bear moves into undesirable areas and is subsequently killed. Some bears that have been habituated to human generated attractants in the Russian River area have been killed rather than relocated. However, bears are killed by agency personnel only when a high-risk safety issue has been identified.

Bear Population – Kenai Peninsula and at KRRC – Information to Share

In 1993 the Alaska Department of Fish and Game (ADFG) attempted a population estimate by comparing known densities of bears in Alaska with expert knowledge of bears on the Kenai Peninsula. An estimate of 250-300 bears was based on an assumed density of 20 bears per 1000 km^2 in 13,848 km^2 of habitat. This area did not include much of the land south of Kachemak Bay and Kenai Fjords National Park. (Del Frate, 1993) Managers have maintained that the population has been stable to increasing since and some bears are now occasionally observed from the excluded areas.

ADFG believes that the bear population may have increased from that estimate but does not have any definitive information to produce a new population estimate. The Interagency Brown Bear Study Team investigated new techniques to estimate bear numbers using DNA however cost estimates were never budgeted.

In 2010 the USFWS Kenai National Wildlife Refuge in partnership with the USFS Chugach National Forest proposed and has been working to develop a "grid based" population estimate across four million acres of the Kenai Peninsula using DNA. Analysis is currently underway and there is not a result to share at this time.

In 2007, 2008 and 2009, ADFG and USFS conducted a pilot study to determine the minimum number of bears using the Russian River area. Samples of hair collected opportunistically from rub trees and vegetation along bear trails provided DNA-based

identification of 39 different brown bears that visited the Russian River area during these years. Preliminary DNA analysis indicates that possibly only two individuals used the Russian River area in multiple years, and that most bears were likely transient animals.

Regulation of bear hunting: Specific to the KRRC, all hunting is closed from June 1 to July 31 by Board of Game regulation within 150 yards of the Russian River, from Lower Russian Lake to the confluence. On the Kenai Peninsula in general, ADFG continues to explore ways to maximize bear hunting opportunity. Currently, drawing hunt permits are allocated to "regions" on the Kenai Peninsula. More permits are allocated to areas occupied by humans, and hunters are encouraged to hunt in areas frequented by problem bears.

III. Key Questions for Discussion at October Public Forums

- Open to any additional comments regarding bear management topics that the public would like to offer.

Topic: Education

I. Public Comments / Suggestions (from April public forums and emails)

There is public support to continue and increase education efforts. There are constantly new visitors to educate. Specific ideas included the following.

- One-on-one education is highly valued and thought to be most effective. Ideas suggested:
  - Increase Stream Watch presence as volunteer on-site educators (extended hours, increase numbers, emphasize positive interactions with area users, locate at key access points such as top of stairs)
  - Educate campers at the campground: ARM contact station, campground hosts
  - Increase angler-to-angler education; specifically ask them to spread the word to others on the river
  - More agency educators, that can also enforce if necessary
- On-site orientation session(s) - Require attendance at a KRRC-specific education program (similar to Katmai NP "Bear School") or web-based video.
- Partnerships for education - Provide education materials through partnerships / collaboration with sportsman's organizations, tourism businesses / lodging, Chambers of Commerce, retailers / vendors.
- Web-based Information - Provide more information on the web; link with sportsman's organizations, tourism business, vendors and other websites
- Publications - Magazines (Hunt Alaska; Fish Alaska; Alaska Airlines); newspaper inserts; format on-site publications as "pocket-size"
- Signs –
  - Signs useful; like rhyming signs on stairs
  - Signs not useful
  - Post white-board(s) continually updated with wildlife sightings and status of wildlife activity
- Other education ideas / comments:
  - Publicize Successes - "This is working; help us keep it going"
  - Evening campground programs
  - Concern that AM radio is not effective
  - Use videos / slide shows at high public use areas (e.g. ferry line)

II. Initial Evaluation of Management Options

Considerations:

- A strong and aggressive educational component is needed to complement all of the management strategies that get adopted through this public process. However, the agencies believe that education alone will not sufficiently decrease the potential for human/bear conflicts.
- All public information tools must provide the same key consistent messages.
- Need to provide education about how to appropriately react in case of a bear encounter, and responsible use of bear deterrents such as bear spray and firearms at this high public use area.
- Education efforts should be expanded to anglers that fish upstream of the Kenai-Russian River Complex (to control fish waste that would flow downstream to KRRC).
- **C**osts for the potential education approaches, including staffing, have not been estimated.

A. Management Options for Further Consideration

Preliminary Finding – The following actions (many of which were suggested by the public at the April forums) are recommended as the most effective approaches to enhance the current education tools and delivery. These various public education approaches should be pursued, as funding and staff capacity permits:

- Create an interagency Russian River website that is a comprehensive site for visitor information.
- Enhance one-on-one educational strategy through the addition of onsite interpreters (river walks on scheduled timeframes).
- Enhance peer-to-peer educational strategies (e.g., angler-to-angler).
- Enhance our visitor's guide publication to be concise yet comprehensive. (NOTE: New comprehensive "one-stop" Visitors Guide was distributed to all visitors in 2011, based on recommendations made at the April 2011 public forums.)
- Create an interagency sign plan that is visually appealing and consistent in the KRRC (signs include interpretive, regulatory, safety, and directional).
- Manage staff and volunteer message & delivery through annual interagency collaboration, training, and in-season accountability.
- Boost and manage Alaska Recreation Management (ARM) messaging to visitors through annual interagency collaboration, staff training, and in-season accountability.

- Pursue partnerships to encourage wider distribution of educational messages through the use of traditional and alternative methods (e.g., podcasts, public service announcements, publications, news stories, videos, etc.)

B. Option Not Recommended for Further Consideration

Based on evaluation to date, mandatory attendance at a "Bear School" presentation specific to the Kenai-Russian River area is not considered to be practical, due to the numbers of visitors/anglers and the layout of the area (e.g., no captive audience at any one location, such as a visitor center).

III. Key Questions for Discussion at October Public Forums

- Which are the "top three" public education approaches / tools you think will be most effective.
- How can we increase peer-to-peer education?
- Are there additional ideas for public education that we should consider?

Topic: Regulations

I. Public Comments / Suggestions (from April public forums and emails)

Comments regarding existing regulations at the Kenai-Russian River area included:

- Support the consistent food storage regulations.
- Retained fish regulation is ridiculous; cannot move to land fish and also keep within 12' of stringer.
- Do not over-regulate anglers.
- Prefer education over more regulation.
- Important to have consistency in regulations on different land ownerships.

Suggested additional regulations included:

- Require all backpacks be on backs (not on ground).
- Do not allow coolers on the ferry or on the Russian River.
- Limit the amount of "baggage" brought down to river.
- Require bear-proof storage of any salmon not under directly physical control of a responsible person.
- Require bear-proof storage of any human food not under directly physical control of a responsible person.

II. Initial Evaluation of Management Options

Preliminary finding – It is recognized that some of the management actions included in the KRRC five-year action plan will need to be supported by regulations and enforcement activities. Specific management actions need to be determined before any regulations are considered, adopted or revised for the KRRC area. Discussion of what regulations are needed and warranted on the Kenai-Russian River will occur as the five-year action plan is developed.

Regulations related to land management would need to be promulgated by the agency with management authority over the land area affected. Regulations pertaining to fishery or game management would need to be considered and acted upon by the Board of Fisheries or Board of Game, respectively.

III. Key Questions for Discussion at October Public Forums

- Open to any additional comments regarding regulations that the public would like to offer.

Topic: Enforcement

I. Public Comments / Suggestions (from April public forums and emails)

Comments about enforcement at KRRC recommended emphasizing and increasing enforcement of existing rules. Specific suggestions included:

- Promulgate and enforce regulations to minimize improper handling and disposal of fish, fish waste and human foods.
- Enforce rules in campgrounds; sets expected tone for use of entire KRRC area.
- Increase weekend and holiday enforcement.
- Address unregulated parking.
- Enforce fishing licenses, limits.
- Make penalties substantial, as deterrent.
- Put law enforcement where there are usually bears (e.g. Cottonwood Hole, falls, confluence).
- As alternative to fines, require volunteer service at KRRC.
- Include public in enforcement.

II. Initial Evaluation of Management Options

Public safety and protection of agency resources is an important aspect of management of the KRRC. Federal law enforcement officers from the Kenai National Wildlife Refuge and Chugach National Forest protect visitors, government property and natural/cultural resources on federal public lands. At the KRRC, federal officers respond to emergency situations, violations in progress, and provide investigative support across agency boundaries. State officers from the Alaska State Troopers, Alaska Wildlife Troopers, and River Rangers (Alaska State Parks) also support the public safety and resource protection efforts at the KRRC.

Preliminary finding – It is recognized that the KRRC is a highly used recreation area that warrants a presence by law enforcement personnel. However, resources are limited and it is expected that staffing resources will continue to be limited over the next five years. As a part of the development of the five-year action plan, the agencies will improve coordination of interagency enforcement activities and identify opportunities that could result in a greater level of services between June-September.

III. Key Questions for Discussion at October Public Forums

- Open to any additional comments regarding enforcement that the public would like to offer.

Topic: Infrastructure & Facility Management

I. Public Comments / Suggestions (from April public forums and emails)

Suggested improvements to KRRC infrastructure and facility management related to reducing attractants or potential for human-bear conflicts included:

- Install electric fencing around areas where bears must be excluded (e.g. tent campsites, fish cleaning tables, dumpsters).
- Provide more bear-proof food storage & garbage containers in campgrounds and at dump stations (e.g. Sunrise).
- Provide bear-proof containers for disposal of fish waste; remove/empty frequently.
- Provide or rent out bear-proof containers for retained fish, convenient to the river.

II. Initial Evaluation of Management Options

Preliminary finding – Based on public input, the RRICG discussed a variety of ideas related to infrastructure. Their preliminary findings include:

- Bear-proof food storage and garbage containers have already been installed at the Kenai River ferry and will be installed at all campsites in the Russian River Campground by 2012.
- The USFS and USFWS will communicate with an appropriate vendor to consider providing or renting personal food storage and retained fish containers for use on river.
- In 2012, the USFS will be evaluating the need for campground improvements, which could include access, sites, and/or facilities needed to improve fish waste management (see p. 4).
- Management actions specific to the campground that could be considered in the five-year action plan include:
  - Remove or trim vegetation to increase sight distances for brown bears and humans in the campground and along the fishing trail.
  - Identify areas where habitat enhancement may facilitate the unimpeded movement of brown bears to bypass the campground.
  - Clean fire pits daily.
  - Allow only hard-sided camping vehicles.
  - Redesign the campground to centralize all cooking and garbage facilities.
  - Strictly enforce food-storage regulations.

III. Key Questions for Discussion at October Public Forums

- Are there any other infrastructure needs / ideas related to minimizing human-bear conflicts you would like to suggest for consideration? Any other needs in the ferry parking lot area? Or on the river corridor?
- What are your thoughts about the suggested actions for campground management listed above?

Topic: Trails & Visibility

I. Public Comments / Suggestions (from April public forums and emails)

Suggestions related to trails and visibility at KRRC included:

- Clear vegetation to improve visibility on trails.
- Raise boardwalks to improve visibility and possibly discourage bear use.

II. Initial Evaluation of Management Options

In 2009 and 2010 the USFS did minimal clearing along KRRC trails to increase sight distance. During July 2011, technicians accomplished moderate vegetation clearing which seemed to increase visibility in many areas along the Russian River Anglers Trail from the confluence (access #10) to the white trail (access #32).

Preliminary finding:

- In 2012, the USFS plans to clear more vegetation to increase visibility. The project will begin in early July.
- There is no plan to raise the boardwalks or take other measures to keep bears off of them, but this could be considered in future infrastructure planning.

III. Key Questions for Discussion at October Public Forums

- Did you notice any difference in visibility and your sense of being able to see and avoid bears after vegetation clearing was done in the 2011 season?
- Are there areas along the Kenai River (ferry access) – or other areas at the KRRC – where the vegetation needs to be cleared and visibility improved? If so, where?

Summary of Actions Considered But Not Incorporated into Final Five-Year Action Plan

Fish Waste Management

Off-site Fish Waste Disposal – The RRICG did not find off-site disposal to be cost-effective at this time, nor to be responsive to the substantial public interest in returning marine-derived nutrients to the Kenai-Russian River system.

Repeal Stop/Chop/Throw – The RRICG continues to support the current practice of stop/chop/throw as a feasible and cost-effective means to reduce the accumulation of fish waste along the shoreline. However, the group is investigating alternatives, such as grinders, that would reduce the size of fish waste disposed of in the river to reduce the likelihood of accumulation further.

Public Education

Required on-site orientation sessions (e.g. like Katmai's "Bear School" video) – The RRICG did not believe that it would be feasible to require all visitors to the Kenai-Russian River area to watch an educational video or receive a Bear Aware briefing, due to the number of visitors, the dispersed access points at which they enter the area, and the wide range of their arrival times. The five-year action plan, instead, includes a range of public education materials and emphasizes one-on-one or small group education opportunities.

Temporal Closures

Night-time Closures – The RRICG considered whether temporal (night-time) closures of all or part of the Kenai-Russian River area to public access would be a warranted and effective action to reduce human-bear conflicts. During the public process, there was considerable comment both in support of and opposition to nighttime closures. After consideration, the RRICG determined that there was not a sufficiently clear connection between nighttime fishing and human-bear conflicts to warrant restricting access. Before taking such a potentially significant action, the agencies would need more information about its potential effects on bear use, distribution and behavior at the Kenai-Russian River, as well as effects on human use patterns, fishing opportunity, economic impacts on businesses, and other social and economic factors. Agencies would also need to further consider whether it would be feasible to establish and enforce such a restriction. The action plan identifies these information needs as key topics for future research.

Spatial Closures

Permanent area closures – There were suggestions to permanently close specific areas to angling due to heavy consistent bear use and perceived higher potential for human-bear conflicts (e.g. Cottonwood Hole, Russian River above power line), and closing certain areas to camping (e.g., between Sportsman's and Jim's Landing). The RRICG determined that it would be most responsive to the public interest to institute spatial closures only as needed in-season, to avoid restricting access unnecessarily.

Management of Bears

Increase brown bear hunting on the Kenai Peninsula – The management of bear hunting (e.g., seasons, bag limits) is under the authority of the Board of Game and is not under the control of the RRICG or this action plan.

Establish a wider no-hunting corridor along the Russian River / consider extending closure through August – The management of bear hunting (seasons, locations) is under the authority of the Board of Game and is not under the control of the RRICG or this action plan.

Use diversionary feeding to attract bears away from the Kenai-Russian River area – The RRICG did not favor using diversionary feeding (e.g. downstream of the high use area), as there was concern that it would simply move potential incidents to another location. Reducing attractants at the Kenai-Russian River area is the preferred management approach.

Facilitate destination bear viewing – Some members of the public favored encouraging growth in bear viewing at the Kenai-Russian River area. As noted in the plan, the RRICG does not find the area to be well-suited for bear viewing as a destination activity, due to the design of its facilities, the existing very high level of visitation focused on angling, and the fact that people access the area from many different points at all hours of the day.

Regulations

Repeal retained fish regulation – The RRICG continues to support having a regulation in place requiring anglers to keep caught fish within 12' of them on the riverbank, to discourage bears from seeking and obtaining retained fish as a food source.

Additional suggestions for regulations – Additional regulatory suggestions included requiring all backpacks to be on the angler's back (not on the ground), not allowing coolers on the ferry or on the Russian River, and requiring bear-proof storage of all retained fish. The RRICG is recommending no additional regulations at this time and instead will focus on visitor education aimed at reducing bear attractants, and enforcement of existing regulations regarding proper storage and oversight of human-food attractants (food, drink, garbage) and proper oversight of retained fish.

Trails / Visibility

Raise boardwalks to improve visibility and discourage bear use – There is not currently funding for reconstruction of boardwalks at the Kenai-Russian River area.