PROPOSAL 37
5 AAC 92.108. Identified big game prey populations and objectives.

PROPOSED BY: Alaska Department of Fish and Game

WHAT WOULD THE PROPOSAL DO?
Reduce the harvest objective for deer in Unit 1A from 700 to 350–400 as follows:

Population Deer	Finding	Population Objective	Harvest Objective
GMU 1A	Positive	15,000	**350–400** [700]

WHAT ARE THE CURRENT REGULATIONS?
The current annual harvest objective for Game Management Unit (Unit) 1A is 700 Sitka black-tailed deer (*Odocoileus hemionus sitkensis*; deer).

There is a positive customary and traditional use finding for deer in Unit 1A outside of the Ketchikan Nonsubsistence Area and an amount reasonably necessary for subsistence uses of 5–40 deer.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED?
This would bring the harvest objective to an attainable range more consistent with the 20-year average from Regulatory Year 1997 – Regulatory Year 2017 (e.g., RY16 = 1 July 2016–30 June 2017) of 301 deer.

BACKGROUND:
For the purposes of implementing AS 16.05.255(e) – (g), in 2000 the Alaska Board of Game (Board) established Intensive Management (IM) population and harvest objectives for deer in Unit 1A at 15,000 deer and 700 deer, respectively (5 AAC 92.108). The IM population objective was developed by evaluating several sources of population information, including deer habitat carrying capacity within the Unit via the USFS habitat capability model for deer, the local Area Biologist's assessment of range condition, and historical deer pellet group counts. The IM deer harvest objective was developed using the Unit's average estimated annual deer harvest during regulatory years 1994-1998 plus an additional 10%. Those years represented the highest harvests on record. That the current harvest objective of 700 deer per year has never been met suggests it is unrealistically high.

A number of factors can influence deer abundance, including habitat condition, winter severity, and predation. In this analysis we examine which of those factors has changed since the 1994–1998 reference period. Winter severity varies by year and there were severe winters in 2006-2007 and 2008-2009, but since 2013 Southeast Alaska has experienced a series of average to mild winters. We believe this series of moderate winters would have allowed deer to recover from more severe winters a decade ago. Predators are present throughout Unit 1A. Since 1994 harvest of wolves and black bears has been stable and within historical norms. Considering the consistent wolf and black bear harvest we believe the effects of predation on deer abundance have likely remained

relatively constant over time. However, since the mid-1990s habitat conditions in Unit 1A have changed as a result of clearcutting old-growth forest.

Beginning in the 1960s thousands of acres of old-growth forest on federal, state, Alaska Mental Health Trust, and private lands have been harvested, mostly on Revillagigedo and Gravina islands and the Cleveland Peninsula. For example, on US Forest Service land on Revillagigedo Island and the Cleveland Peninsula about 20 percent of the high volume productive old-growth forest below 800 feet elevation (deer winter habitat) has been clearcut (Table 37-1). Further, prior to closure of the Ketchikan Pulp Mill, US Forest Service habitat capability models predicted declines in deer carrying capacity of 50-60% in long term timber sales areas (Unit 1A) by the end of the old growth logging rotation in 2054. Other Unit 1A landowners manage less land, but those lands are more intensively harvested. Acres of productive forest owned and harvested by those entities were not available for this analysis.

A key feature of old-growth forest for deer is the tall, uneven forest canopy that results from frequent, but small-scale, disturbance, mostly single tree deaths. Vertical and horizontal gaps in the canopy allow sunlight to reach ground level, promoting growth of forage plants. During winter the canopies of large trees intercept snow resulting in patchy accumulations of snow on the ground. Patchy snow distribution allows deer to move and feed using far less energy than if snow cover were consistent, and leaves forage in snow-free patches under tree canopies accessible to deer.

In contrast, young clearcuts can produce abundant forage, but also accumulate snow. Snow increases the energetic cost of locomotion, and forage is inaccessible when buried under snow. Consequently, when snow is present clearcuts are poor deer habitat. About 25 years after harvest young trees regenerating in clearcuts grow tall enough to begin shading-out forage species. Eventually a dense even-aged canopy forms, shading out most shrub and herbaceous plants. This natural forest succession process results in large areas that were formerly good deer habitat supporting far fewer deer, and this condition can persist for many decades. Thinning, pruning, and patch cuts have all been used to improve habitat conditions in second-growth forest for deer, but to date none have been demonstrated to have a positive effect on deer abundance.

Many acres of clearcuts that still produced forage during the 1994-1998 reference period have since succeeded to closed-canopy second-growth forest, which produces very little forage. Logging continues, so deer winter habitat continues to decline. The department believes these ongoing changes to habitat likely result in Unit 1A now supporting fewer deer than in the mid-1990s.

Hunter effort and hunting conditions can also influence harvest. Closure of the Ketchikan Pulp Mill in the late 1990s resulted in declines in Ketchikan's population and deer hunting effort (Figure 37-1). Hunter effort and harvest have increased again but have not reached levels of the mid-1990s. In recent years roughly half of Unit 1A deer hunters accessed their hunting opportunity by land vehicle. The Southeast Alaska landscape is difficult to traverse in a land vehicle, so vehicles are restricted to logging roads where

much of the adjacent habitat has been clearcut. Logged landscapes support fewer deer than unharvested areas, and dense vegetation in older clearcuts and second-growth forest make deer difficult to see. For RY2011-RY2017 Unit 1A deer hunters who accessed deer hunting opportunity using land vehicles had a lower success rate (31% vs 41%) and required an additional day of hunting (7.1 days vs 6.3 days) to harvest a deer than did hunters who accessed hunting opportunity by boat, plane, or foot. Those differences could result from hunting in road-accessible logged and boat accessible unlogged landscapes.

A 2018 federal decision to halve the non-federally qualified hunter (Ketchikan residents fall under this category) bag limit for Unit 2 deer from four bucks to two bucks may shift some hunter effort to Unit 1A and increase harvest, but at this time the effect is unpredictable.

The Unit 1A harvest objective for deer has never been met. Mean annual Unit 1A deer harvest for RY1998 – RY2017 is 301 deer with a peak of 564 deer in RY2017; well below the current 700-deer harvest objective (Figure 37-1). There is some potential for Unit 1A deer hunter effort to increase, but the department questions whether the current harvest objective can be consistently met with a modest increase in hunter effort. Finally, no habitat management techniques have been demonstrated to mitigate the ongoing decline in deer habitat condition. Considering these factors, the department suggests that the harvest objective should be adjusted to a range that can be regularly met and recommends an annual harvest objective for deer in Unit 1A of 350–400 deer. Harvest exceeded 350 deer six times during RY1998 – RY2017.

Table 37-1. Percentage of old growth remaining after the beginning of timber harvests on National Forest land in 1954. Percentage by biogeographic province including high volume and large tree productive old growth below 800 ft. in elevation.

Biogeographic Province	High-volume productive old growth <800 ft. elevation	Large-tree productive old growth <800 ft. elevation
North Misty Fjords	91%	85%
South Misty Fjords	98%	96%
Revilla Island/Cleveland Peninsula	81%	62%

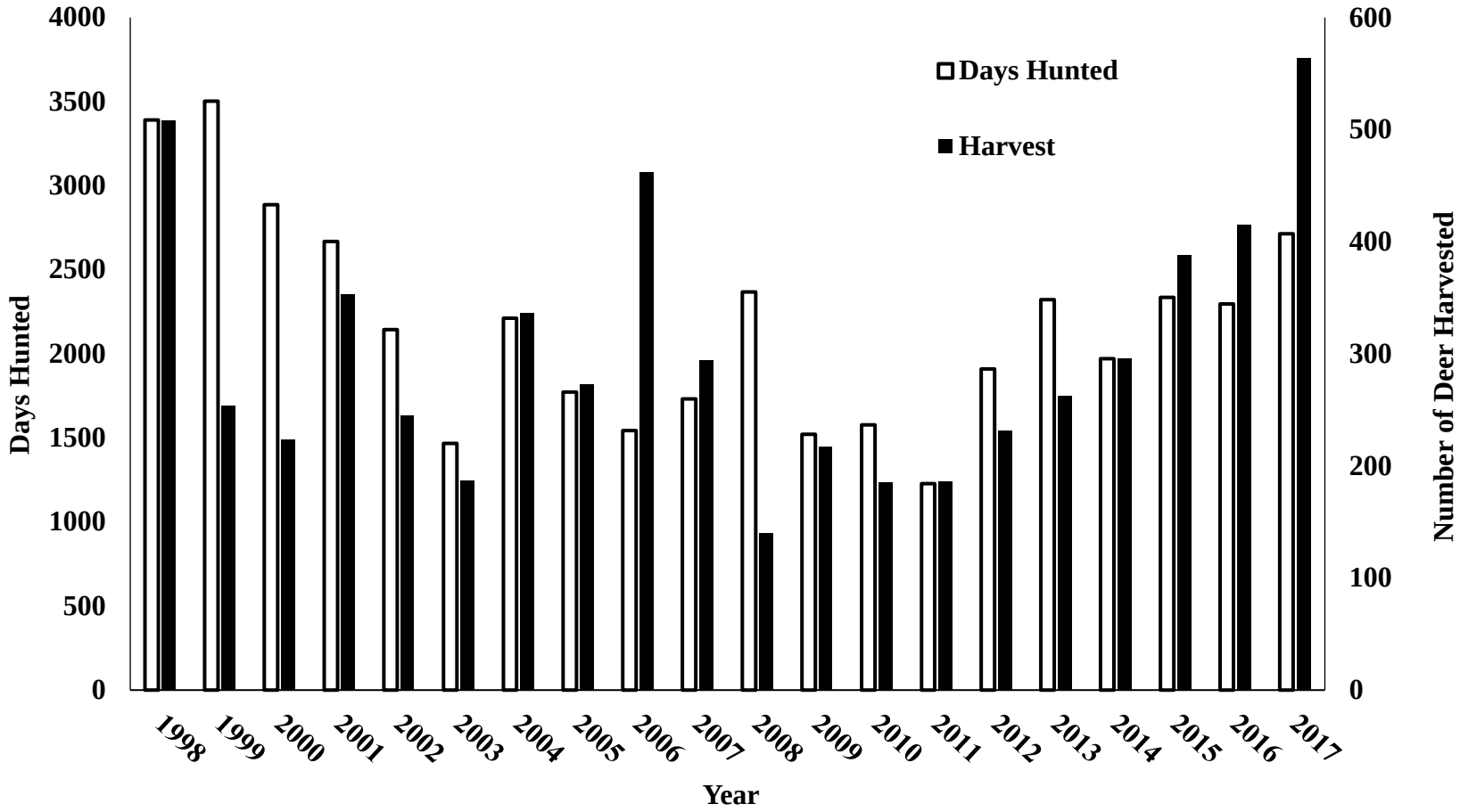

Figure 37-1. Harvest and total days hunted for Sitka black-tailed deer (*Odocoileus hemionus sitkensis*) in Game Management Unit 1A from regulatory year 1998 – 2017.

DEPARTMENT COMMENTS:
The Department is **NEUTRAL** on this proposal. The harvest objective currently in place has not been attained since it was initially adopted by the board. A reduction in the harvest objective and a change to the harvest range will create a reasonable management goal consistent with changing habitat conditions in Unit 1A.

COST ANALYSIS:
Adoption of this proposal is not expected to result in additional costs to the department.

PROPOSAL 49 – 5 AAC 85.015. Hunting seasons and bag limits for black bear. Increase the "up to number" for drawing permits (DL029) for nonresident black bear hunters without a guide on Kuiu Island in Unit 3 as follows:

Units and Bag Limits	**Resident Open Season (Subsistence and General Hunts)**	**Nonresident Open Season**
Unit 3 Kuiu Island		
NONRESIDENT HUNTERS WITHOUT A GUIDE: 1 bear by drawing permit only; up to [50 PERMITS] **75 permits** may be issued; the season will be closed by emergency order when the harvest guideline has been reached		**Sept. 1—June 30**

PROPOSED BY: Alaska Department of Fish and Game

WHAT WOULD THE PROPOSAL DO? This proposal would increase the allowable number of black bear draw permits the department could issue annually to nonresident hunters without a guide.

WHAT ARE THE CURRENT REGULATIONS?

Unit 3	Hunts	Dates
Residents	HT	Sept 1 – June 30
Two bears but not more than one may be a blue or glacier bear		
Nonresidents hunters using registered guides	HT	Sept 1 – June 30
One bear		
Nonresident hunters not using registered guides	DL029-DL031	Sept 1 – June 30
One bear		

The board has made a positive customary and traditional use determination for black bears in Unit 3 with an amount reasonably necessary for subsistence of 15-20 bears.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The department will be able to allow additional hunting opportunity should it be determined that a harvestable surplus of bears exists on the island.

BACKGROUND: At its fall 2010 meeting in Ketchikan, the Board of Game adopted a proposal requiring non-resident black bear hunters who do not enlist the services of a registered hunting guide to obtain a drawing permit prior to hunting black bears in Units 1−3. Implementation of the new regulation was delayed until fall 2012 to allow guides time to adjust and the department time to implement the new drawing permit requirement for nonresident black bear hunters without a guide.

During deliberations on the original proposal, the board asked the department to provide estimates of black bear abundances and densities, and to determine sustainable harvest levels for geographical areas of concern and/or areas that were believed to constitute discrete management areas. Figures for the Kuiu Island management area are presented in Table 49-1. The board then used the mean annual harvest by resident, unguided nonresident, and guided nonresident hunters for 2007-2009 (Table 49-2) to allocate harvest among those three user groups of hunters and an estimated 50% success rate to establish the number of permits that could be issued to the unguided nonresident hunters (Table 49-3). Based on the department's estimates of sustainable harvest levels within each geographic area, the board established the number of drawing permits available to unguided nonresident hunters on Kuiu Island at 40 permits. To provide the department with some flexibility regarding the exact number of drawing permits to be issued, the board authorized the department to issue "up to" a maximum of 50 drawing permits annually on Kuiu Island (DL029).

From 2012 to 2016 the department offered 40 drawing permits annually for unguided nonresident black bear hunters on Kuiu Island. After 5 years the department evaluated hunt statistics associated with the drawing permit requirement including, rates of hunter participation, effort, success, and total annual harvest of black bears by permittees (Table 49-4). The department also tabulated harvest by user group to evaluate whether the hunt strategy implemented in 2012 had been effective at limiting harvest to within the estimated Harvest Guideline Level (HGL) of 84 bears. Total harvest and harvest by all user groups remained within the 2010 allocations (Table 49-5). Because total harvest and harvest by unguided nonresidents during 2012-2016 remained within allocation and the bear population appeared healthy, beginning with the fall 2017 season the department increased the number of drawing permits available to the maximum allowable, 50 permits.

Table 49-1. Black bear population and harvest assessment for Kuiu Island, 2010.

Kuiu Is. Black Bear Population and Harvest Assessment 2010

Land Area (mi^2)	Estimated Bear Density (bears/mi^2)	Estimated Bear Population	Mean Annual Reported Harvest (2000 2010)	Unrecovered (25%)	Adjusted Annual Hunting Mortality	Estimated Mortality Rate (%)	Estimated Sustainable Annual Mortality	Allowable Reported Harvest (Total less 25%)
750	1.5-2.5	1125-1875	114	29	143	8.0-13.0	112	84

Table 49-2. Kuiu Island (Unit 3) black bear harvest by user group, 2007-2009.

Mean Annual Black Bear Harvest by User Group (2007-2009)				
Hunt Area	Resident Hunters	Guided Nonresident Hunters	Unguided Nonresident Hunters	Total
Kuiu Is.	15	52	32	99

Table 49-3. Proposed Unit 3 black bear harvest and drawing permit allocation for unguided nonresident hunters, 2010. Permit allocation assumes a 50% success rate for unguided nonresident hunters.

Proposed Black Bear Harvest and Unguided Nonresident Drawing Permit Allocation					
		Proposed Harvest Allocation		Unguided Nonresident Hunters	
Hunt Area	Estimated Harvestable Surplus of Bears	Resident and Guided Nonresident Hunters	Unguided Nonresident Hunters	Proposed Number of Drawing Permits	"Up To" Number of Drawing Permits
Kuiu Is.	84	64	20	40	50

Table 49-4. A summary of Unit 3 black bear drawing permit (DL029) harvest effort and success, 2012-2017. Average values are calculated for 2016-2016 because the number of drawing permits issued was increased to 50 in 2017.

Black Bear Drawing Hunt DL029, Kuiu Is. Hunter Effort and Success (2012-2017)					
Regulatory Year	Permits Issued	Permittees Who Hunted	Permittees Who Harvested	% Male Bears	Avg. Days Hunted
2012	40	28	15 (54%)	93	5.4
2013	40	29	12 (41%)	92	5.8
2014	40	22	11 (50%)	73	4.5
2015	40	24	11 (46%)	73	5.0
2016	40	26	18 (69%)	89	3.9
Average 2012-16	**40**	**26**	**13 (50%)**	**85**	**4.9**
2017	50	30	25 (83%)	92	3.6

Table 49-5. Kuiu Island black bear harvest by user group, 2012-2017. Average values are calculated for 2016-2016 because the number of drawing permits issued was increased to 50 in 2017. The estimated harvestable surplus in 2010 was 84 bears.

Kuiu Is. Black Bear Harvest by User Group (2012-2017)					
Regulatory Year	Resident Hunters	Guided Nonresident Hunters	Unguided Nonresident Hunters	Total Harvest	Running 3-Year Avg.
2012	14	52	15	81	81
2013	9	28	12	49	69
2014	9	35	11	55	62
2015	14	30	11	55	53
2016	22	33	18	73	61
Average 2012-2016	**14**	**36**	**13**	**63**	**NA**
2017	15	45	25	85	71

Given that the maximum number of allowable drawing permits established by the board has been reached on Kuiu (DL029), the department requests that the board increase the "up to" number of available permits for nonresident black bear hunters without a guide on Kuiu from the current 50 to 75 permits annually. Such action will allow the department to provide additional hunting opportunity should it determine a harvestable surplus of bears exists on the island.

DEPARTMENT COMMENTS: The department recommendation is **NEUTRAL** because bear populations can be managed sustainably under the current or proposed regulations.

COST ANALYSIS: Adoption of this proposal is not expected to result in additional costs to the department.

PROPOSAL 50 – 5 AAC 85.015. Hunting seasons and bag limits for black bear. Increase the "up to number" for drawing permits (DL030) for nonresident black bear hunters without a guide on Kupreanof Island in Unit 3.

PROPOSED BY: Alaska Department of Fish and Game

WHAT WOULD THE PROPOSAL DO? This proposal would increase the allowable number of black bear draw permits the department could issue annually to nonresident hunters without a guide.

WHAT ARE THE CURRENT REGULATIONS?

Unit 3 Kupreanof Island

…

NONRESIDENT HUNTERS WITHOUT A GUIDE	**Sept. 1—June 30**
1 bear by drawing permit only; up to [100 PERMITS] **125 permits** may be issued	

…

The board has made a positive customary and traditional use determination for black bears in Unit 3 with an amount reasonably necessary for subsistence of 15-20 bears.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The Department will be able to provide additional hunting opportunity should it be determined that a harvestable surplus of bears exists on the island.

BACKGROUND: At its fall 2010 meeting in Ketchikan, the Board of Game adopted a proposal requiring non-resident black bear hunters who do not enlist the services of a registered hunting

guide to obtain a drawing permit prior to hunting black bears in Units 1−3. Implementation of the new regulation was delayed until fall 2012 to allow guides time to adjust and the Department time to implement the new drawing permit requirement for nonresident black bear hunters without a guide.

During deliberations on the original proposal, the Board asked the department to provide estimates of black bear numbers and bear densities, and to determine sustainable harvest levels for geographical areas of concern and/or areas that were believed to constitute discrete management areas. Figures for the Kupreanof Island management area are presented in Table 50-1. The board then used the mean annual harvest by resident, unguided nonresident, and guided nonresident hunters for 2007-2009 (Table 50-2) to allocate harvest among those three user groups and an estimated 50% success rate to establish the number of permits that could be issued to the unguided nonresident hunters (Table 50-3). Based on the Department's estimates of sustainable harvest levels within each geographic area, the board established the number of drawing permits available for unguided nonresident hunters on Kupreanof Island at 80 permits. To provide the department with some flexibility regarding the exact number of drawing permits to be issued, the board authorized the department to issue "up to" a maximum of 100 drawing permits annually on Kupreanof Island (DL030).

From 2012 to 2016 the Department offered 80 drawing permits annually for unguided nonresident black bear hunters on Kupreanof Island. After 5 years the Department evaluated hunt statistics associated with the drawing permit requirement, including rates of hunter participation, effort, success, and total annual harvest of black bears by permittees (Table 50-4). The Department also tabulated harvest by user group to evaluate whether the hunt strategy implemented in 2012 had been effective at limiting harvest to within the estimated Harvest Guideline Level (HGL) of 80 bears. Total harvest and harvest by all user groups remained within the 2010 allocations (Table50-5). Because total harvest and harvest by unguided nonresidents during 2012-2016 remained within allocation and the bear population appeared healthy, beginning with the fall 2017 season the department increased the number of drawing permits available to the maximum allowable, 100 permits.

Table 50-1. Black bear population and harvest assessment for Kupreanof Island, 2010.

Kupreanof Is. Black Bear Population and Harvest Assessment 2010								
Land Area (mi^2)	Estimated Bear Density (bears/mi^2)	Estimated Bear Population	Mean Annual Reported Harvest (2000 2010)	Unrecovered (25%)	Adjusted Annual Hunting Mortality	Estimated Mortality Rate (%)	Estimated Sustainable Annual Mortality	Allowable Reported Harvest (Total less 25%)
1090	1.0-1.5	1090-1635	97	23	120	7.0-11.0	109	80

Table 50-2. Kupreanof Island (Unit 3) black bear harvest by user group, 2007-2009.

Mean Annual Black Bear Harvest by User Group (2007-2009)				
Hunt Area	Resident Hunters	Nonresident Guided Hunters	Nonresident Unguided Hunters	Total
Kupreanof Is.	18	25	37	80

Table 50-3. Proposed Unit 3 (Kupreanof Island) black bear harvest and drawing permit allocation for unguided nonresident hunters, 2010. Permit allocation assumes a 50% success rate for unguided nonresident hunters

Proposed Harvest and Unguided Nonresident Drawing Permit Allocation					
		Proposed Harvest Allocation		Unguided Nonresident Hunters	
Hunt Area	Estimated Harvestable Surplus of Bears	Resident and Guided Nonresident Hunters	Unguided Nonresident Hunters	Proposed Number of Drawing Permits	Maximum Number of Drawing Permits
Kupreanof Is.	80	43	40	80	100

Table 50-4. A summary of Unit 3 black bear drawing permit (DL030) harvest effort and success, 2012-2017. Average values are calculated for 2012-2016 because the number of drawing permits issued was increased to 100 in 2017.

Black Bear Drawing Hunt DL030, Kupreanof Is. Hunter Effort and Success (2012-2017)					
Regulatory Year	Permits Issued	Permittees Who Hunted	Permittees Who Harvested	% Male Bears	Avg. Days Hunted
2012	80	59	30 (51%)	90	4.9
2013	80	53	18 (34%)	89	5.9

2014	80	66	29 (44%)	93	3.9
2015	80	49	21 (43%)	81	5.1
2016	80	55	35 (64%)	94	4.3
Average 2012-16	**80**	**56**	**27 (48%)**	**89**	**4.8**
2017	100	68	38 (56%)	87	4.0

Table 50-5. Kupreanof Island black bear harvest by user group, 2012-2017. Average values are calculated for 2012-2016 because the number of drawing permits issued was increased to 100 in 2017.

Kupreanof Is. Black Bear Harvest by Hunter Class (2012-2017)					
Regulatory Year	**Resident Hunters**	**Guided Nonresident Hunters**	**Unguided Nonresident Hunters**	**Total Harvest**	**Running 3-Year Avg.**
2012	23	23	28	74	76
2013	11	21	21	53	72
2014	11	11	29	51	59
2015	8	19	23	50	51
2016	15	29	39	83	61
Average 2012-2016	**14**	**21**	**28**	**62**	**NA**
2017	19	22	41	82	72

Given that the maximum number of allowable drawing permits established by the board has been reached on Kupreanof Island (DL030), the department requests that the board increase the "up to" number of available permits for unguided nonresident black bear hunters on Kupreanof Island from the current 100 to 150 permits annually. Such action will allow the department to provide additional hunting opportunity should it determine a harvestable surplus of bears exists on the island.

DEPARTMENT COMMENTS: The Department recommendation is **NEUTRAL** because bear populations can be managed sustainably under the current or proposed regulations.

COST ANALYSIS: Adoption of this proposal is not expected to result in additional costs to the department.