STRATEGIC PLAN FOR MANAGEMENT OF DEER IN SOUTHEAST ALASKA 1991 - 1995

POPULATION OBJECTIVES

Alaska Department of Fish and Game
Division of Wildlife Conservation
Region I

Alaska Department of Fish and Game
Division of Wildlife Conservation
Region I

Strategic Plan for Management of Deer in Southeast Alaska, 1991–1995, Population Objectives

STATE OF ALASKA

DEPARTMENT OF FISH AND GAME

SOUTHEAST REGIONAL OFFICE

Walter J. Hickel, Governor

P.O. BOX 20
DOUGLAS, ALASKA 99824-0020
PHONE: (907) **465-4265**

August 1991

Dear Reader,

These are the Department of Fish and Game, Division of Wildlife Conservation's population objectives for Sitka black-tailed deer in southeast Alaska. These objectives are the first element of a comprehensive plan for deer management in southeast Alaska. Other elements of the plan will be released in the future.

The public contributed to the development of these objectives through its responses to a detailed 1987 deer hunter questionnaire and its responses to annual deer hunter surveys. That information helped us determine public demand for and use of deer throughout the region. The capability of habitat to support deer was also an important factor in developing population objectives for specific areas. A detailed explanation of the methods and assumptions used in developing the objectives can be found in the introduction.

There will be additional opportunity for public input on deer populations and deer management in general during the development of the rest of the deer plan. If you have serious concerns about any element of the deer plan you will have future opportunities to express them. Comments on these population objectives are welcomed. We will keep them on file and notify you of the comment and review periods for other parts of the deer plan.

Sincerely,

David A. Anderson
Regional Supervisor

STATE OF ALASKA
Walter J. Hickel, Governor

DEPARTMENT OF FISH AND GAME
Carl L. Rosier, Commissioner

DIVISION OF WILDLIFE CONSERVATION
David G. Kelleyhouse, Director

This project was partially funded by Federal Aid in Wildlife Restoration funds as part of an ongoing program in Region 1.

Additional copies of this report may be obtained from:
ADF&G, Division of Wildlife Conservation
P.O. Box 240020
Douglas, Alaska 99824
(907) 465-4265

ACKNOWLEDGEMENTS

These deer population objectives are a result of the work of many people. The overall regional planning program is supervised by David Anderson, Regional Supervisor. He and David Johnson, former Regional Management Coordinator, insured that staff remained devoted to the task over the many months of preparation. David Johnson also was instrumental in maintaining cooperative ties with the USDA Forest Service. Information on habitat, regulations, access, and human use was contributed by the following area management biologists who also helped developed objectives for their areas:

Units 1A & 2	-Doug Larsen, Ketchikan
Units 1B & 3	-Charlie Land, Petersburg
Unit 1C	-Bruce Dinneford, Juneau
Unit 4	-Butch Young, Sitka

Matt Kirchhoff, regional deer research biologist, and Rod Flynn, regional biologist contributed valuable technical expertise for the formulation of objectives. They were also members of the interagency team which developed the deer habitat capability model on which most of these objectives are based.

Lowell Suring and Gene Degayner of the USDA Forest Service were members of the habitat modeling group. In addition, they did the technical computer work and provided us with timely data from versions of the model as it was revised and updated. Mark Orme from the Tongass Land Management Plan Revision Team and Robert Dewey of the Forest Service Regional Office in Juneau gave valuable help in assembling tables and made suggestions on the document's format and how to make these objectives most useful to the TLMP revision process and to the Forest Service in general.

Anne Post, biologist/planner, coordinated effort on the project and wrote game management unit summaries. Tom Paul, wildlife technician/planner, helped develop objectives, and wrote most of the document.

Finally, development of these objectives was only possible because of the interest and assistance of numerous individuals who completed questionnaires and annual deer hunter survey reports. The information they continue to provide is essential for good deer management in southeast Alaska.

CONTENTS

Game Management Unit 3 -- Central Archipelago

Game Management Unit 4 -- ABC Islands

INTRODUCTION

Population objectives for Sitka black-tailed deer (*Odocoileus hemionus sitkensis*) have been developed by the Alaska Department of Fish and Game, Division of Wildlife Conservation as a first step in preparing a comprehensive strategic management plan for deer in southeast Alaska. The objectives are presented here along with explanatory information on the overall planning process and the specific process used to develop the population objectives. The objectives are being presented now in advance of the other elements of the plan, so that they can be used in the revision of the Tongass Land Management Plan (TLMP) by the USDA Forest Service. Because the revised TLMP will govern Forest Service land use management for the next ten years, and because of the rapid loss of high value deer habitat in southeast Alaska, we are presenting population objectives now instead of waiting for the complete strategic plan.

These are Department of Fish and Game population objectives for 183 Wildlife Analysis Areas in southeast Alaska. They were developed using the Department's best technical expertise, and the most recent and reliable information from the public on the human demand for deer in southeast Alaska. They express what we believe is necessary to provide for that demand both now and in the future. This is a technical document which describes our strategies for managing a valuable state resource. It is not a state policy document.

Purpose and Need for Plans

The purpose of these plans is to establish goals, objectives, and strategies that will direct the programs of the Division of Wildlife Conservation in Region I (southeast Alaska) for the next five years. The plans are designed to communicate the objectives of the Division to all Department personnel, other agencies, and the public. Also, the plans provide a mechanism for the Division to review and update objectives and provide the public with an opportunity to inform the Division of their concerns and desires. In short, they help the Division carry out its mission under state law.

The constitution of the state of Alaska charges that "fish, forests, **wildlife**, grasslands, and all other replenishable resources belonging to the state shall be utilized, developed, and maintained on the sustained yield principle..." (emphasis added)

The Alaska Statutes Title 16 invests the Board of Game with regulation-making powers for the state. The Board has authority to establish such regulations as hunting season lengths, bag limits, quotas, methods and means of taking game, etc. Title 16 gives the commissioner of the Department of Fish and Game administrative authority to "supervise and control the department...", and to "manage, protect, maintain, improve, and extend the fish, **game**, and aquatic plant resources of the state in the interest of the economy and general well-being of the state..." (emphasis added). It also grants the commissioner power to delegate his authority to subordinate officers and employees of the department. For wildlife resources, the commissioner's administrative authority has been delegated to the Division of Wildlife Conservation.

Carrying out the Division's mission is increasingly difficult. Wildlife management has become quite complex because questions of biology are inextricably intertwined with political, social, economic, and fiscal considerations. For instance, although biologists recognize that wildlife and habitat are inseparable and that no wild species can be maintained effectively outside of its natural biotic community, in southeast Alaska the two are managed separately. The Alaska Department of Fish and Game is charged with managing wildlife; however, most of the habitat is part of the Tongass National Forest and thus managed by the USDA Forest Service.

Maintaining and preserving adequate wildlife habitat in the face of demands by other resource users is the major wildlife management issue in southeast Alaska. Other land and resource uses (logging, mining, roading, intensive tourism, or other development activity) can cause loss of habitat and increased disturbance to wildlife.

Allocation of wildlife to different users --- subsistence hunters, resident recreational hunters, non-resident recreational hunters, and non-hunters (non-consumptive users) --- is also an issue. For each user group, wildlife provides substantial economic and social values that may be affected by allocation decisions or by loss of wildlife and habitat to conflicting land uses.

Fiscal considerations are an issue in wildlife management. The ADFG/Division of Wildlife Conservation must decide which objectives and strategies are the most feasible and beneficial given the time and the limited financial and personal resources at its disposal. Human population and the impacts of development are increasing in many areas of southeast Alaska. Where developmental impacts are great, the costs of managing wildlife will increase substantially.

In addition to its mission under state statutes, the Division of Wildlife Conservation has other tasks that require development of comprehensive plans. The U.S. Fish and Wildlife Service has requested that measureable objectives be established for the state wildlife management program to assist in the accounting of Federal funds. The Forest Service has requested the Division of Wildlife Conservation to provide desired population levels for big game species in southeast Alaska so wildlife objectives can be considered along with other resource objectives in national forest management.

A comprehensive planning system can make the mission and tasks of the Division of Wildlife Conservation easier in many ways.

- -- Plans give continuity to the direction and priorities established by the ADFG/Division of Wildlife Conservation regardless of personnel changes, and serve as firm points of reference for the Divison and for members of the public.
- -- Plans attempt to set measurable objectives so that wildlife managers and the public have observable benchmarks to use in gauging progress dealing with particular problems.
- -- Planning helps identify and articulate problems that the Division and other agencies should be addressing.
- -- Planning forces an agency to ask questions about the future and how current actions may affect resources in the long term.
- -- Planning can change an agency's orientation in day-to-day operations from one which is often reacting to situations to one which is acting to achieve definite objectives.
- -- Planning helps prioritize projects for funding.
- -- The planning process provides a regular, formal mechanism for public involvement in wildlife management in a broader context than the regulations process.

History of Wildlife Planning in Alaska

Comprehensive wildlife management planning began in 1973 in Alaska with adoption of the Alaska Game Management Policies. These policies, which have been renamed Species Management Policies, were revised and endorsed by the Board of Game in 1980. The policies reflect current Department and Alaska Board of Game philosophy on the management of Alaska's wildlife. They are the principal policy base on which the Division's wildlife management plans are developed. A copy of the species management policies for deer can be found in Appendix A of this plan. This regional plan and all the area-specific plans for deer in southeast Alaska are consistent with the Species Management Policies (1980).

Draft statewide Alaska Wildlife Management Plans for all big game species were developed in 1976 and revised in 1980 in response to public comments. This regional plan and the area-specific plans for deer in southeast Alaska supersede all previous management plans for deer in the region.

The Planning System

It is important to understand how these plans fit into the system of management and planning being developed by the Division of Wildlife Conservation in Region I. These deer management plans are **strategic plans**. That is, they set the goals and objectives for management of deer in light of what is known about the current

situation. In other words, they answer the questions -- "Where are we?" and "Where do we want to be." Strategic plans will be officially revised at approxmiately five year intervals.

In these plans, **goals** are defined as general statements of management direction or intention and generally apply to the region as a whole. For example, one goal might be, "To maintain viable populations of deer in their historic range in the region". **Objectives** are specific targets which can be used to measure the success of a management plan. An example of an objective is, "To provide and maintain a post-hunt population of 850 deer in the Upper Hoonah Sound area."

Once the goals and objectives have been set by the strategic plans after consultation with the public, **operational plans** are devised by the Division of Wildlife Conservation to select the management techniques to achieve the objectives. The operational plans answer the question -- "How do we get there?" Operational plans change from year to year and govern the day-to-day operations of the Division of Wildlife Conservation. The decisions in them are based on such things as available money and what the priority of a project is in relation to others. Although the Division of Wildlife Conservation will retain considerable flexibility in devising its operational plans, the techniques and methods chosen in carrying them out will be consistent with the provisions in the strategic plans.

The final element of the planned management system is to ask -- "How well did we achieve our goals and objectives?" This evaluation of progress is done not only at the end of a planning period, it is a constant monitoring necessary to know what the next step should be to achieve the plan objectives. The information in these plans is the best available. The Division of Wildlife Conservation recognizes, however, that constant upgrading, evaluation, and revision are necessary. In practice, the "How did we do?" of one cycle in the plan becomes the "Where are we?" of the next so that plan updating and fine tuning are a continuing process.

Regional Plan Development

The decision to develop new specific long range management plans for wildlife in Region I was made in 1986. In early 1986, a controversy over moose management in regard to subsistence hunts led to a series of public meetings in Haines and the drafting of a long range moose management plan for the Chilkat Valley. The approach was beneficial in dealing with the problem, so it was expanded to include the entire region and other wildlife species.

Planning has been a regionwide effort. ADFG/DWC area biologists and regional office staff collaborated at all stages of plan development. Input along the way has been received from ADFG's Divisions of Habitat and Subsistence.

Development of Population Objectives

Sources of Information and Assumptions

Population objectives were formulated based on the following assumptions and sources of information.

1) Current hunting demand -- A measure of current hunting demand was developed based on responses to the 1987 deer hunter survey conducted by ADF&G Division of Wildlife Conservation (see Appendix B). Besides asking how many deer hunters killed during the 1987 season, the survey asked how many deer hunters "would like to kill" (deer wanted), and how many deer killed would constitute a "successful season."

Results, analyzed by community, showed the actual harvest was lower than both number of deer wanted and the number necessary for a successful season. This was true for hunters in nearly all communities of the region. The results imply that, despite recent high annual kill in some areas, current harvest is not an appropriate measure of hunters' demand in southeast Alaska.

For nearly all communities, the number of deer that hunters would like to take exceeded the number necessary for a successful season. We assumed, however, that if hunters considered a season successful, they were

satisfied with the number of deer harvested. Thus, the number of deer required for a successful season was considered to be a useful measure of demand for deer by hunters. This "satisfaction demand" was used in development of population objectives.

2) Historical Hunting Demand -- In areas now closed to hunting, hunter demand was determined by estimating historical harvest levels. Thus, deer harvest from the period 1960-68 was used to estimate hunter demand for Mitkof, Kupreanof, and Kuiu Island. Because satisfaction demand was not available for those areas, historical harvest was used as the measure of demand. Harvest data came from Doerr and Sigman, 1986, Firman and Bosworth, 1990, Cohen, 1989, and Smythe 1988.

3) Future Demand -- Future demand for deer was not calculated for these objectives. We do assume, however, that demand will increase in the region and that it will likely grow in proportion to population growth.

4) Habitat Capability -- The most important factor affecting the size of deer populations is the capability of the habitat to support deer. Habitat capability figures used in formulating these objectives come from a computer model developed jointly by wildlife biologists from ADF&G, USFS, and USFWS. The model is based on deer/habitat relationships identified by ADF&G and USFS research. The model uses the USFS Geographic Information System (GIS) database. The models are still in draft stage and adjustments will be made as the verification process proceeds. Evaluation of models and databases is important, so outputs can be used with confidence. Population objectives may change with adjustments in the models and databases.

In evaluating the habitat capability for any particular area, it is important to distinguish between "current habitat capability" and "long-term habitat capability" as used here. Current habitat capability refers only to the model output of current (1988) conditions with clearcuts not yet matured to second-growth stage. Long-term habitat capability for any year is actually the habitat capability model output as conditions would be 30 or more years later, after clearcuts have closed over into second growth. In areas with recent clearcuts, the number of deer the habitat will support in the future will be somewhat lower than the number it supports now, even if no more logging occurs. Proper evaluation of the effects of management options on wildlife must consider this decline in habitat capability in some areas over time.

5) Sustainable Harvest Rate -- Population objectives were determined by assuming that about 10% of the deer population could be harvested if the population is equal to the habitat capability (see Flynn and Suring 1990 for additional discussion). The 10% harvest rate was applied uniformly across the region because variations in population caused by predation are accounted for in the habitat capability model. The population objectives in this plan are post-winter deer numbers; that is, they are deer that have survived the winter but have not yet produced offspring. The population subject to harvest (the fall population) is that of the objective plus the offspring of those deer. A harvest rate of 10% will not provide maximum sustained yield, but it will provide for higher deer populations over the long term and higher hunter success. High hunter success is also a regional deer objective. We emphasize that the 10% harvest rate assumption was used for the purpose of long-term planning and not year-to-year management. Actual harvest rates as well as deer populations will fluctuate in the short term.

Formulating Objectives

We have set population objectives by Wildlife Analysis Area (WAA). For the purpose of setting population objectives, areas of high demand were considered to be those in which the number of deer needed to meet demand exceeded 75% of current habitat capability. In such areas, our objective is to provide the deer population needed to meet current demand. If the number needed to meet current demand exceeds the area's habitat capability, our objective is to maintain a population equal to the current habitat capability.

In areas where hunting demand is not high, our objectives are not based on hunting demand but are related to habitat capability. In each Wildlife Analysis Area (WAA), our minimum objective is to maintain 75% of the habitat capability that existed prior to large scale logging in the region (circa 1950-54). Although current demand may not justify maintaining populations at that level, the intent is to preserve management options for

the future in these areas for both hunters and nonconsumptive users of deer. We believe restricting loss of habitat capability to 25% of relatively "pristine" conditions is sufficient to maintain those options in most areas. We have agreed with the USDA Forest Service that 1954 is an appropriate baseline year to use for pristine conditions. Because data on the 1954 habitat capability was not available from the Forest Service, we have estimated that capability in this document.

In Wildlife Analysis Areas where a 25% loss in habitat capability would result in a population falling below minimum viable levels, the viable population level becomes the objective. As a general rule of thumb, it was assumed that a minimum of 500 deer is needed in each WAA to have a viable long-term population.

Because deer populations are very low or nonexistent in Game Management Units 1D (Upper Lynn Canal) and 5 (Yakutat and Malaspina Forelands), we have not established population objectives for those areas at this time.

Total demand for deer is a combination of hunters' demand for a species and nonhunters' (or nonconsumptive users') demand for that species. Nonhunting demand for deer has not yet been measured. Consequently, population objectives were formulated using only hunters' demand. This document assumes that in areas with high hunter demand the maintenance of huntable populations will meet the needs of the nonhunting public. In areas of low hunter demand, maintaining a long-term habitat capability of 75% of pristine conditions should provide enough deer to meet the future needs of both hunters and nonhunters.

Demand for deer hunting is not evenly distributed around the region. Demand is highest near large communities, where populations of deer are high, and in extensively roaded or otherwise highly accessible areas. In many areas, demand exceeds the projected long-term habitat capability. Because of a series of mild winters in the 1980's, some deer populations have increased to levels probably above long-term habitat capability and have supported high harvests. However, following one or more severe winters, these areas will provide fewer deer. Without more restrictive regulations, overhunting may result as a large number of hunters attracted by the ease of access compete for a dwindling population of deer.

Some areas of southeast Alaska are little used by hunters. In some cases, such as Kuiu, and Kupreanof islands, deer seasons are closed. In other cases, huntable populations receive little use because of their remoteness from human communities or because road access or easy boat access is lacking. Although demand for deer is currently low in these areas, it is not likely to remain low.

As deer populations decline in areas where demand is currently greatest, we foresee hunters moving to less utilized areas. In areas now closed, we expect deer populations will increase and hunting will resume. Demand in the areas near communities like Petersburg, Kake, and Wrangell will be high, possibly higher than historical harvests, because much of the country near those communities is now accessible by logging roads. Finally, increasing human population size will result in increasing demand for deer throughout the region, and areas where demand is now low may increase in importance.

Maintaining deer populations in areas with high hunter demand should be a priority, particularly in areas near communities. Future conditions may redistribute demand in the region, but we cannot now predict exactly where hunters might choose to hunt. Areas important to hunters now can be identified; future options in areas which are not now heavily hunted must be maintained.

These objectives maintain huntable or potentially huntable populations in all Wildlife Analysis Areas in the region where deer naturally occur. We believe well-distributed populations are essential to preserve the opportunities for hunting and other uses of deer that Alaskans and nonresidents demand.

GAME MANAGEMENT UNIT 1
INTRODUCTION

Population Status and Trend

Southeast Alaska is at the northern edge of the natural range for deer, and populations are subject to great fluctuations because of winter weather and predators. GMU 1 is divided into four subunits encompassing both the mainland and some adjacent islands with a wide diversity of habitat quality. As a result, deer numbers vary within these areas. The most recent population lows, which followed very severe winters in 1968-69 and 1971-72, carried through until the early 1980's when noticeable population increases began.

Deer numbers in Subunit 1A are thought to be increasing. However, densities vary throughout the Subunit with higher populations found on the lower Cleveland Peninsula.

In the early 1980's, deer numbers in Subunit 1B were low, although increases were noted in some localities. Presently, deer numbers in Subunit 1B are thought to be low, but increasing.

No estimates of the actual population size are available for Subunit 1C, however pellet group counts for Shelter Island in 1C indicate that deer densities have been relatively high since 1985. A similar trend is believed to exist on Douglas and Lincoln islands. Mainland Subunit 1C trends are probably similar, but with lower densities.

Deer numbers overall are low to moderate in most of GMU 1, except for Subunit 1D where deer populations were never very high. Although the winter of 1988-89 was more severe than those of the last 10-15 years, it does not appear that it caused enough mortality to change the upward trend of the deer population in Unit 1.

Regulations

From 1925 to 1954 deer hunting in southeast Alaska was limited to bucks only. The seasons began in August or September and continued to mid or late November with bag limits of 2-3 bucks. Doe hunting was allowed beginning in 1955.

Beginning in 1956, Southeast was divided into Game Management Units 1 through 5, and deer and other wildlife species were managed by these geographical areas. In 1956 through 1958 the allowable deer harvest in GMU 1 was three bucks.

From 1959 through the early 1970's a bag limit of four deer of either sex was allowed in GMU 1 as well as in most of southeast Alaska. The doe season was a shorter season which usually began in October or September and continued through the end of November or December. Bag limits were reduced during the 1970's in GMUs 1A and 1B, while the limit remained at four deer for subunit 1C.

In the 1980's the bag limit has varied from two, or three deer with a 3 month season for subunits 1A and 1B, to 4 deer and a 5 month season for subunit 1C.

Subunit 1D which has historically had a small deer population was open to deer hunting from the 1920's until 1951. Subunit 1D was closed throughout the 1950's. It was opened at statehood (1958) through 1971, and finally closed in 1971-72.

Historical Harvest

The following tables show deer harvest in GMU 1A,1B and 1C from 1980 through 1989.

GMU 1A

Year	No. of Hunters	Harvest	Hunter Days
1980	890	395	5160
1981	No data collected		
1982	900	340	4370
1983	960	440	5130
1984	1060	620	5820
1985	1108	779	5683
1986	1107	859	7100
1987	946	611	6379
1988	958	686	4930
1989	982	592	4348

GMU 1B

Year	No. of Hunters	Harvest	Hunter Days
1980	110	25	490
1981	no data collected		
1982	60	5	260
1983	80	20	200
1984	70	5	440
1985	94	47	359
1986	119	69	562
1987	153	66	736
1988	178	101	590
1989	191	73	1097

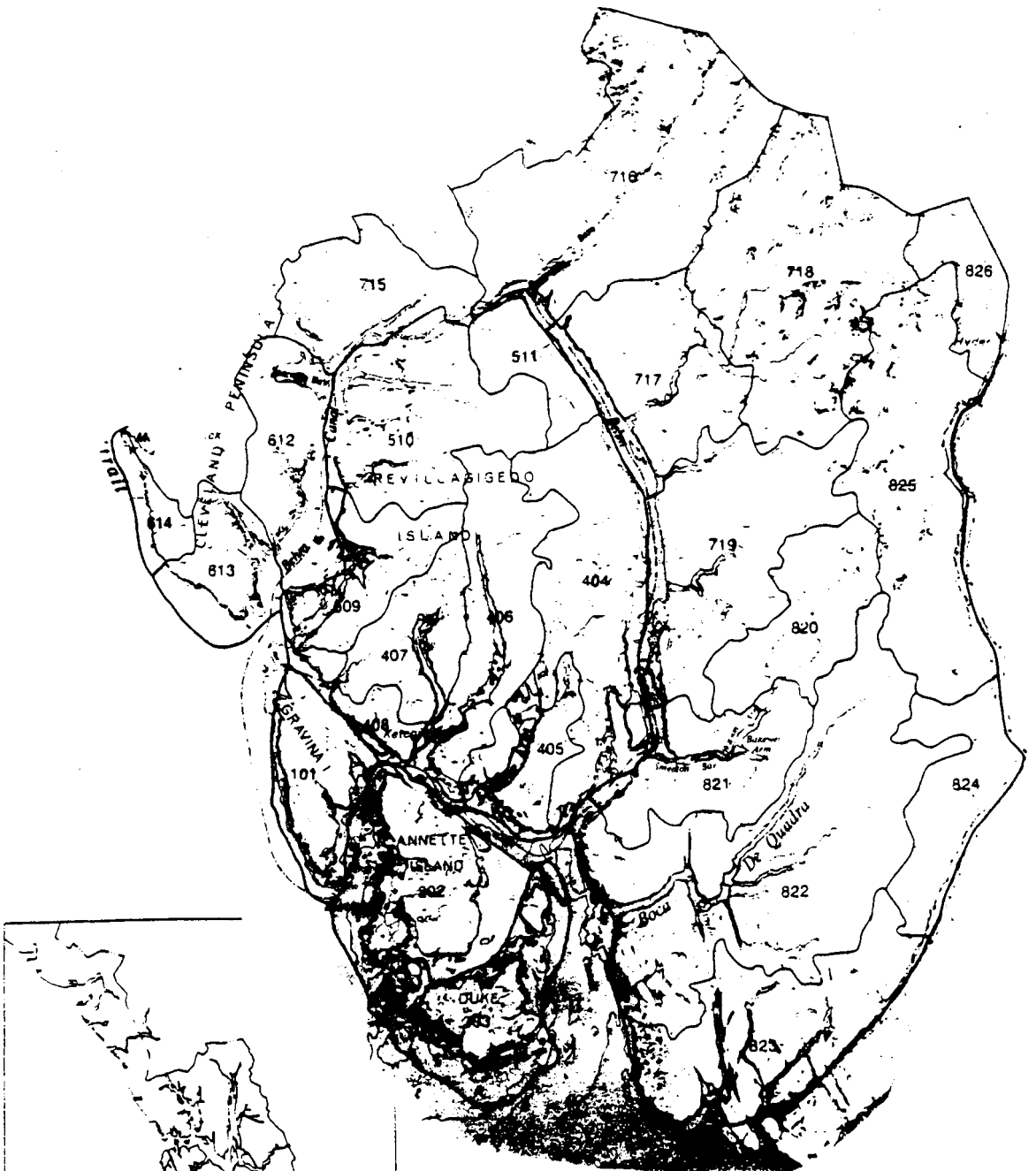
GMU 1C

Year	No. of Hunters	Harvest	Hunter Days
1980	760	245	2770
1981	no data collected		
1982	1030	290	3980
1983	860	400	3110
1984	950	395	3610
1985	1096	526	3977
1986	991	434	3835
1987	1081	533	4051
1988	941	442	2994
1989	940	489	2899

GAME MANAGEMENT UNIT 1A

REVILLA AND SOUTHERN MAINLAND

GAME MANAGEMENT UNIT 1A



Scale: 1 inch = 17.5 miles

GRAVINA ISLAND

Wildlife Analysis Area 101

Habitat Characteristics

Quality and Condition: Most habitat is low quality. There has been some loss of habitat from logging. About 40% of Gravina is non-National Forest land, either state, municipal, or privately owned. Development on that land so far includes the Ketchikan airport and residential property. That development is concentrated along the Tongass Narrows shoreline. Wolves are present on the island.

Snow Rating: Most of Gravina is in a low average-annual snowfall zone. The coast area along Tongass Narrows receives moderate annual snowfall.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is for National Forest land only and is derived from analysis of deer habitat characteristics and average winter weather conditions. Habitat capability for non-National Forest land has not been calculated at this time.

Wildlife Analysis Area	1988 Capability
101	2082

Deer Population Status

The deer population and density on Gravina are moderate and appear to be stable.

Human Use

Hunter Residency: Gravina is heavily used by Ketchikan hunters. It is regularly the most popular area for Ketchikan deer hunters. More Ketchikan residents hunt there than in any other WAA. Metlakatla residents also regularly hunt Gravina. Other communities whose residents have reported hunting Gravina Island at least occasionally since 1984 include: Meyers Chuck, Craig, Klawock, Wrangell, Petersburg, Angoon, Hoonah, Haines, Juneau, Sitka, Tenakee Springs, and Thorne Bay.

Access: Access is primarily by boat across the Tongass Narrows from Ketchikan. Hunters can also ride the airport ferry across the narrows and walk to hunting areas. Boat access to other portions of the island is more problematic. Boaters must contend with the exposed waters of Nichols Passage and Clarence Strait.

Demand: Demand is near but still below long term habitat capability. Demand is expected to increase with the growth of the human population in the Ketchikan area.

WAA	Hunter Demand	Minimum Deer Needed
101	114	1140

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

The population objective allows for the reduction of average long-term deer numbers on Gravina by a maximum of 25% from pristine conditions to accommodate habitat loss from logging. The population objective reflects the high hunter use of Gravina and the need to maintain a high deer population and density to meet current and future demand.

GRAVINA ISLAND PLANNING AREA

WAA	Population Objective
101	1770

Harvest Statistics — Gravina Island

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
101	470	440	345	500	543	413	237	280	241
Total	470	440	345	500	543	413	237	280	241

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
101	1860	1670	1290	1990	1503	1952	665	1051	597
Total	1860	1670	1290	1990	1503	1952	665	1051	597

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
101	165	120	150	205	186	294	71	136	101
Total	165	120	150	205	186	294	71	136	101

DUKE ISLAND

Wildlife Analysis Area 303

Habitat Characteristics

Quality and Condition: Duke Island is mostly flat with generally low quality habitat. Because it has low relief and it is exposed to weather in Dixon Entrance, Duke Is. is generally snow-free even in winter. Because of that, the island may support more deer than would be expected from the quality of the habitat. The area was designated a LUD II in the 1980 forest plan. Little commercial timber exists on Duke and the likelihood of large scale logging there appears slight. On the other hand, the naturally fragmented habitat on Duke may result in lower long term populations than the current habitat capability model predicts. Computer limitations do not allow the habitat model to take into account patch size factors when estimating capability. Wolves probably exist on Duke Island.

Snow Rating: Duke Island receives low annual snowfall on average.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions.

Wildlife Analysis Area	1988 Capability
303	2131

Deer Population Status

Deer numbers and density on Duke Island are reported by some hunters of the island to be high now. They report some large bucks have been seen and taken on the island in recent years.

Human Use

Hunter Residency: Communities whose residents have hunted on Duke Island since 1984 include: Metlakatla, Ketchikan, and Wrangell.

Access: Access is by boat and is often difficult because the island is exposed to the open ocean through Dixon Entrance. Anchorages are few and not very secure for the most part.

Demand: Perhaps also because its exposed coasts make boat access difficult, Duke Island gets little use from hunters. Metlakatla hunters report using it regularly but with mixed success. Use by other hunters from year to year may be dependent on such factors as weather or success in nearby areas.

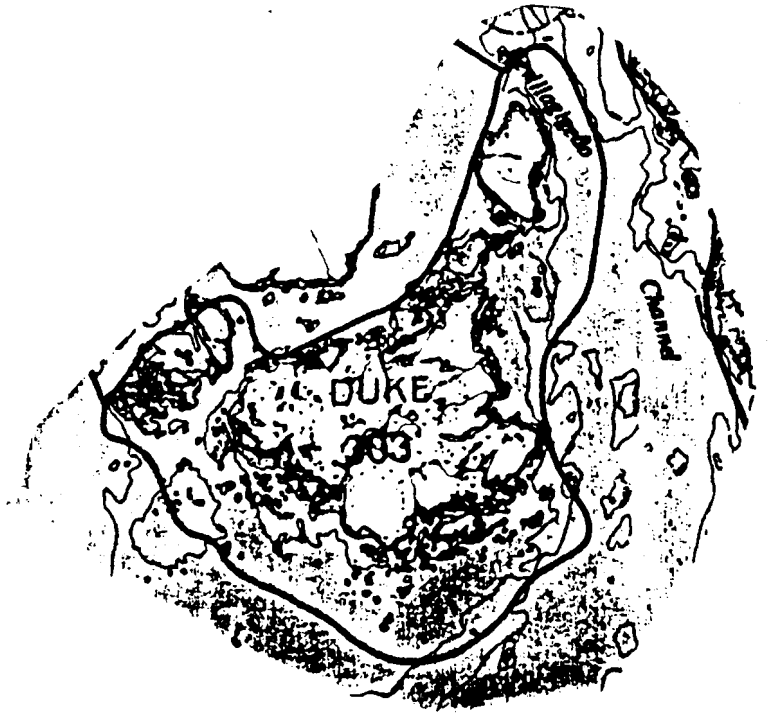
WAA	Hunter Demand	Minimum Deer Needed
303	49	490

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

The population objective allows for the reduction of average long-term deer numbers on Duke by a maximum of 25% from pristine conditions to accommodate habitat loss from logging. The population objective reflects the desire to maintain well-distributed populations throughout the region and to provide alternative areas for hunting and other uses of deer if nearby areas cannot meet demand.

DUKE ISLAND PLANNING AREA



WAA	Population Objective
303	1600

Harvest Statistics --- Duke Island
No hunting effort was reported on Duke Island prior to 1984.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
303	0	0	0	10	22	29	18	19	23
Total	0	0	0	10	22	29	18	19	23

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
303	0	0	0	60	23	474	36	63	33
Total	0	0	0	60	23	474	36	63	33

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
303	0	0	0	5	8	36	0	25	0
Total	0	0	0	5	8	36	0	25	0

SOUTHERN REVILLA

Wildlife Analysis Areas 404, 405, 406, 407, 408

Habitat Characteristics

Quality and Condition: There has been extensive habitat loss from logging and development in WAAs 406, 407, and 408. Large blocks of private and state lands exist in WAA's 408, 407, and to a lesser extent in 406. Extensive logging has occurred on most private lands. We expect that nearly all habitat on private lands in these WAA's will eventually be eliminated. Habitat fragmentation is a growing problem on both private and National Forest lands and may result in lower long term populations than currently predicted by the model. Computer limitations do not allow the habitat model to take into account patch size factors when estimating capability. Wolves are present and may exploit highly fragmented winter habitat, increasing their predation on deer concentrated there. WAA 404 borders Behm Canal and is part of the Misty Fjords Wilderness. Habitat is generally not as good there as in other WAA's in the planning area.

Snow Rating: The southwest coast of Revillagigedo Island receives low average-annual snowfall. The northern portions of WAA's 404 and 406 are in a deep average-snowfall zone. The rest of this area receives moderate average-annual snowfall.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is for National Forest land only and is derived from analysis of deer habitat characteristics and average winter weather conditions. Habitat capability for non-National Forest land has not been calculated at this time.

Wildlife Analysis Area	1988 Capability
404	3514
405	2262
406	3000
407	1357
408	375

Deer Population Status

Based on pellet group surveys, deer numbers and densities in WAA 407 (George Inlet) are low to moderate but appear to be increasing slowly. Deer numbers in the rest of the Southern Revilla area are thought to be low to moderate as well.

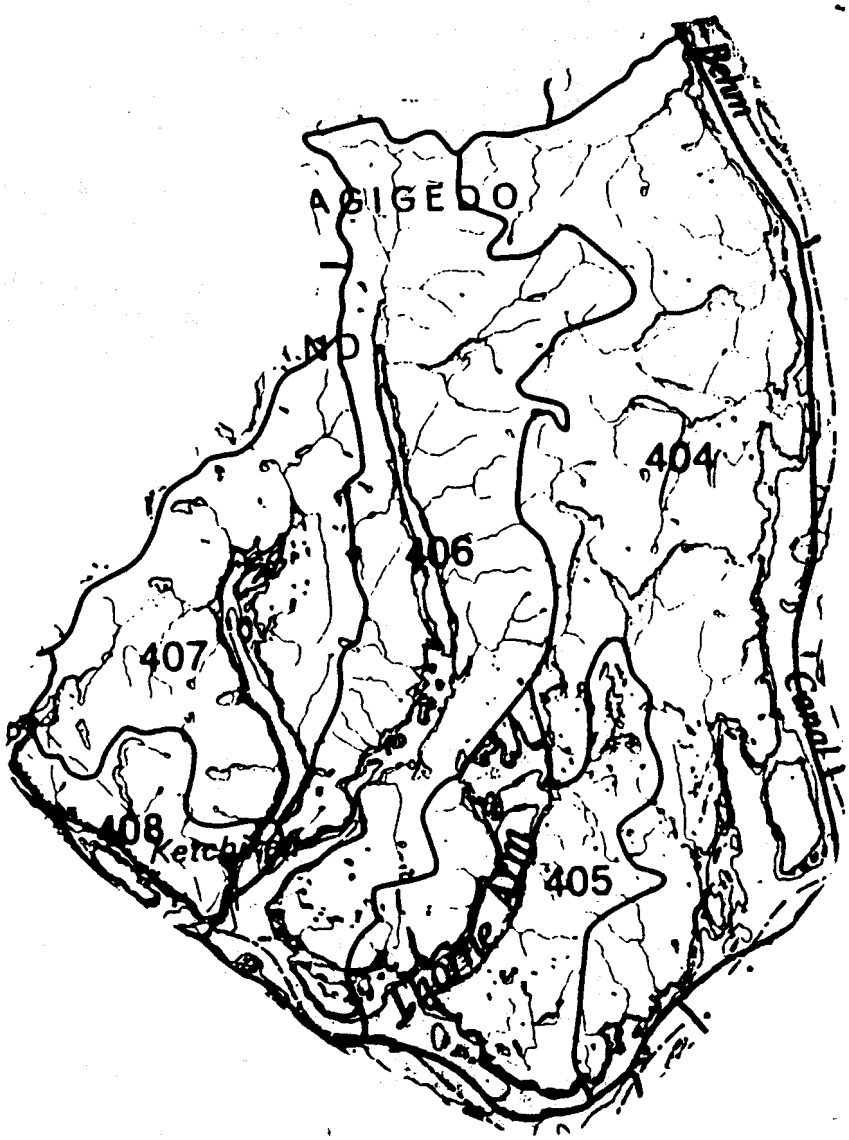
Human Use

Hunter Residency: Primary hunting effort in the Southern Revilla area has been from Ketchikan and Saxman hunters and hunters from logging camps on Revilla. Communities whose residents have hunted in the Southern Revilla area since 1984 include: Ketchikan, Saxman, Shoal Cove logging camp, Craig, Juneau, Petersburg, and Sitka.

Access: Wildlife Analysis Areas 407 and 408 are connected by road to Ketchikan. WAA's 405 and 406 have good boat access from Ketchikan and sheltered anchorages are plentiful. Logging camp residents in these WAA's have access to extensive logging road systems, especially in WAA 406 (Carroll Inlet).

Demand: Portions of this area receive heavy hunting effort from Ketchikan, especially those connected by road to the city. It is anticipated that more areas on Revilla will become accessible by road in the future. As that happens, we expect hunting demand and effort in the area to increase. Demand will likely increase in any case because of human population growth. Demand in WAA's 407 and 408 already exceeds long term habitat capability. Because of low deer numbers and greater difficulty of access, relatively little hunting effort or kill occur in WAA's 404 and 405. Because of its wilderness designation, WAA 404 will likely experience an increase in nonhunting demand for deer.

SOUTHERN REVILLA PLANNING AREA



WAA	Hunter Demand	Minimum Deer Needed
404	48	480
405	12	120
406	99	990
407	123	1230
408	72	720

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

Population objectives allow for the reduction of long-term population numbers in WAA's 405 and 406 by a maximum of 25% from pristine conditions to accommodate habitat loss from logging. The objective for WAA 407 accepts some reduction in average long-term numbers of deer to accommodate logging, but has been set at a figure which retains more than 75% of pristine habitat capability to provide enough deer to meet hunter demand. The objective for WAA 408 reflects the current high hunter demand and the need to maintain habitat to meet current and future demand in areas accessible to hunters. Because WAA 404 is designated wilderness, its population objective has been set equal to its habitat capability. In addition, the objectives for all WAA's reflect a desire for widely distributed populations of sufficient density to provide reliable nonhunting encounters.

WAA	Population Objective
404	3514
405	1923
406	2550
407	1250
408	375

Harvest Statistics — Southern Revilla

Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987. Maps sent out with the hunter survey in 1987 inadvertantly omitted the boundary between WAA's 407 and 408. Consequently, statistics for those WAA's may not be comparable to those from 1988 and 1989 for the same WAA's. The totals for all WAA's for each year are comparable from 1980 through 1989, however.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
404							71	13	15
405							41	85	66
406							159	208	136
407							281	270	229
408							0	242	184
Total	420	330	450	500	554	467	552	580	497

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
404							484	33	20
405							425	182	162
406							879	480	381
407							1027	1066	605
408							82	750	717
Total	1740	1190	2090	1860	1943	2262	2897	2511	1885

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
404							35	13	0
405							12	26	15
406							71	104	39
407							76	104	46
408							0	72	57
Total	145	100	150	150	184	249	194	319	157

NORTHERN REVILLA

Wildlife Analysis Areas 509, 510, 511

Habitat Characteristics

Quality and Condition: Habitat quality in this planning area varies a great deal. In general, the best habitat is found in WAA 509. The Naha River drainage in WAA 509 has been made a permanent LUD II area by Congress and an extensive recreational trail system has been planned by the Forest Service. Logging has reduced habitat in many portions of WAA 510. Wolves are present throughout the Northern Revilla area. WAA 511 is part of the Misty Fjords Wilderness. Habitat there is poor and deer numbers are low. Only about 30% of the land area in WAA 511 is productive forest.

Snow Rating: A small strip along the coast of WAA 509 is in a low average-snowfall zone. WAA 511, the interior areas of WAA 510, and the Naha River drainage in WAA 509 receive high average-annual snowfall. The rest of the area is in a moderate snowfall zone.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions.

Wildlife Analysis Area	1988 Capability
509	1615
510	2363
511	374

Deer Population Status

Deer numbers and density are thought to be low to moderate in WAA 509. Deer numbers and density are generally low in WAA 510 and very low in WAA 511.

Human Use

Hunter Residency: Communities whose residents have hunted in the Northern Revilla area since 1984 include: Ketchikan, Neets Bay and Margarita Bay logging camps, Loring, Juneau, and Thorne Bay.

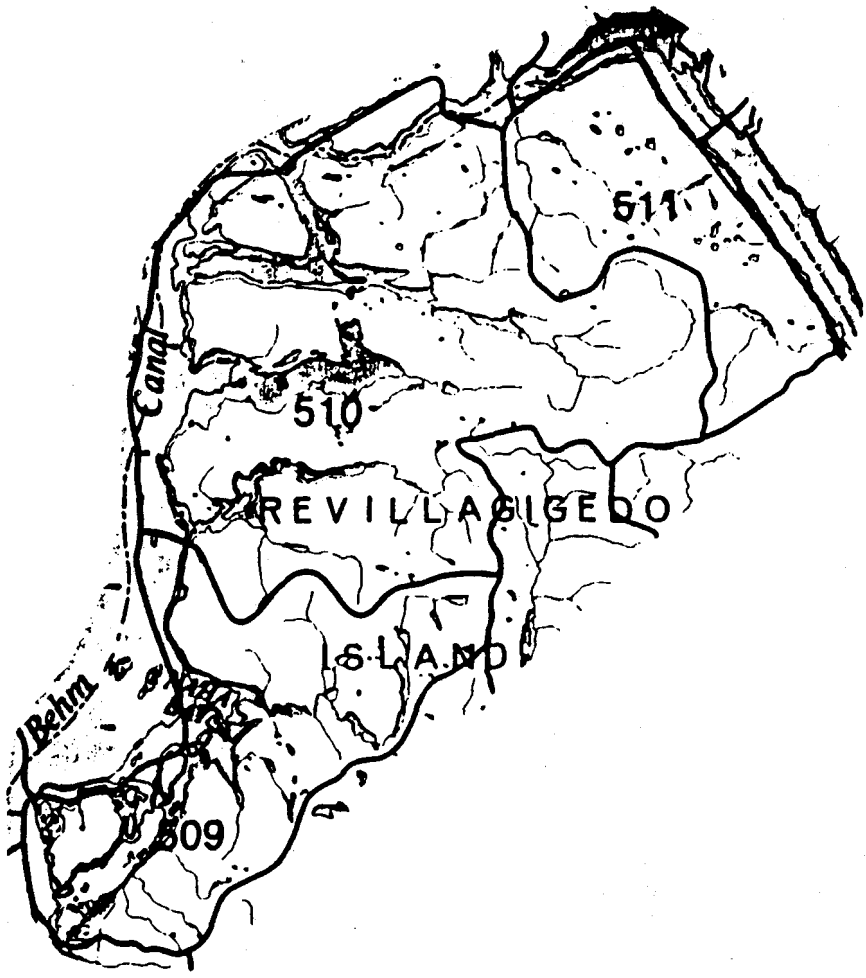
Access: A small part of WAA 509 is connected to the Ketchikan road system. A trail system is planned for parts the Naha River valley in WAA 509. Access to the rest of that WAA and WAA 510 is by boat. Access to WAA 511 is difficult; there are few good anchorages along its coast.

Demand: Deer kill and hunter effort are relatively low in this area. Use of WAA 509 will likely increase with improved trail access to the Naha drainage. Hunting effort and deer kill increased dramatically in WAA 510 in 1989 with resumption of large scale logging operations. Most harvest was by logging camp residents. As more logging, road building, and other development occur in portions of Northern Revilla, hunting and nonhunting use of the area will probably increase, particularly if deer populations and/or hunter success decline elsewhere on Revilla. No harvest or hunter effort has been reported in WAA 511 for the past 5 years. Nonhunting use of WAA 511 may increase because of its wilderness status.

Deer Hunter Demand

WAA	Hunter Demand	Minimum Deer Needed
509	105	1050
510	11	110
511	0	0

NORTHERN REVILLA PLANNING AREA



Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

Population objectives allow for the reduction of average long term population numbers in WAA's 509 and 510 by a maximum of 25% from pristine conditions to accommodate habitat loss from logging. They also reflect the desire to maintain deer populations and densities at levels sufficient to provide for current and future hunting and nonhunting demand. Because it is wilderness and because habitat capability is so low, the objective for WAA 511 has been set equal to habitat capability.

WAA	Population Objective
509	1373
510	2009
511	374

Harvest Statistics — Northern Revilla
Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
509							218	193	177
510							73	21	129
511							0	0	0
Total	290	290	325	220	261	212	291	201	265

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
509							1102	510	471
510							168	28	478
511							0	0	0
Total	1210	1240	1305	970	1052	925	1270	538	949

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
509							66	59	56
510							7	0	56
511							0	0	0
Total	70	70	90	30	56	77	73	59	111

LOWER CLEVELAND PENINSULA

Wildlife Analysis Areas 612, 613, 614, 715

Habitat Characteristics

Quality and Condition: Logging has occurred in portions of WAA's 612 and 613. The best quality habitat is in those WAA's around Port Stewart and Helm Bay. A block of private land extends along the Clarence Strait coast of WAA 614. Wolves are present on the peninsula. Habitat quality is generally poor in WAA 715.

Snow Rating: The Clarence Strait coast is in a low average-snowfall zone. WAA 715 is in a deep snow zone. The rest of the area receives moderate annual snowfall.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is for National Forest land only and is derived from analysis of deer habitat characteristics and average winter weather conditions. Habitat capability for non-National Forest land has not been calculated at this time.

Wildlife Analysis Area	1988 Capability
612	2066
613	1666
614	647
715	955

Deer Population Status

The deer population and density at Helm Bay (WAA 613) is moderate and appears from pellet group surveys to be increasing. Deer densities in WAA's 612 and 614 are thought to be low to moderate. Those in WAA 715 are thought to be quite low.

Human Use

Hunter Residency: Communities whose residents have hunted in the Lower Cleveland Peninsula area since 1984 include: Ketchikan, Meyers Chuck, Yes Bay, and Sitka.

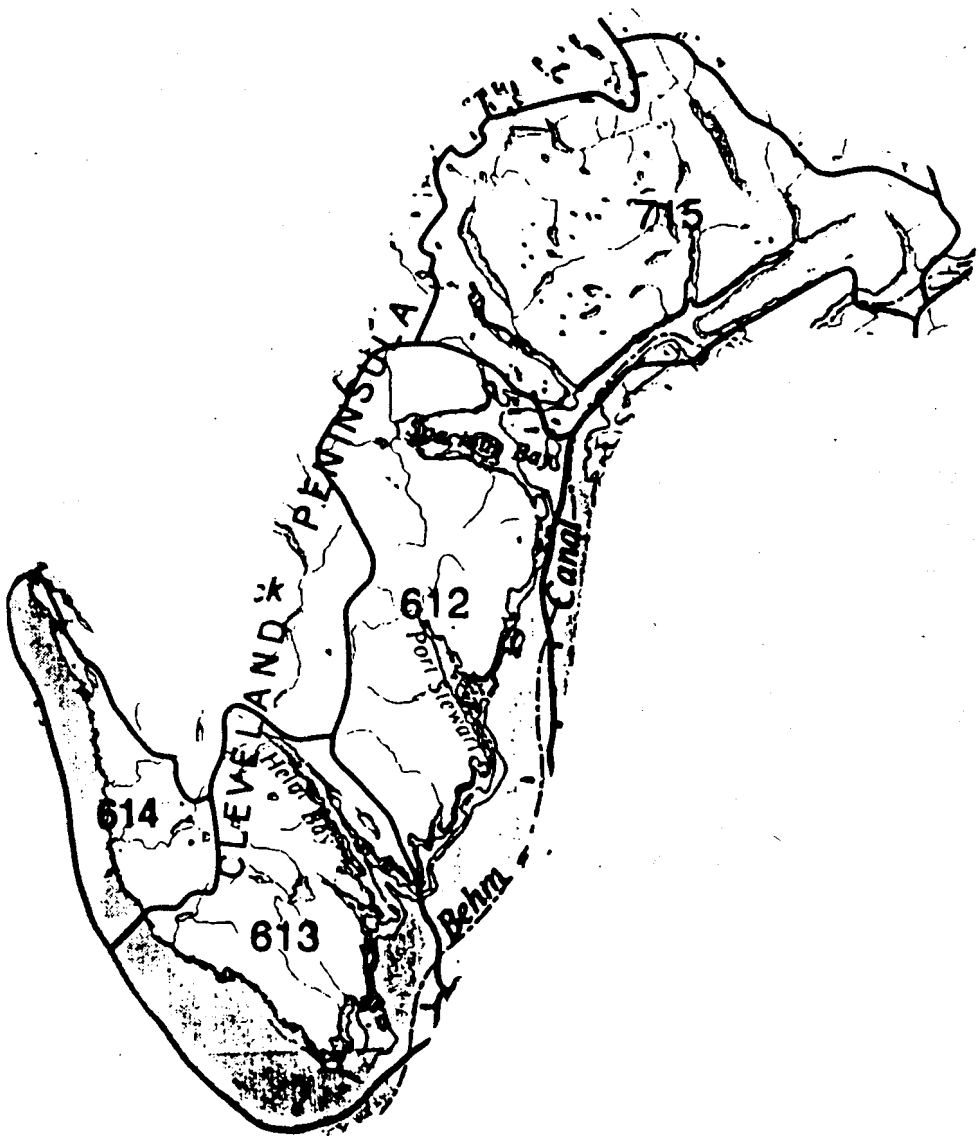
Access: Boat access is fairly good from Ketchikan to WAA's 613 and 612. There are good anchorages in Helm Bay and Port Stewart. The Clarence Strait coastlines of WAA's 613 and 614 are exposed and provide more difficult access.

Demand: Portions of this area are heavily hunted by Ketchikan residents, particularly Helm Bay in WAA 613 and Port Stewart in WAA 612. Hunter demand already exceeds long-term habitat capability in WAA 613. Meyers Chuck is in WAA 614. That small WAA receives considerable use from Meyers Chuck and Ketchikan residents. Meyers Chuck residents also hunt in Helm Bay. Yes Bay is located in WAA 715. Its few residents hunt the area lightly but regularly. Use of the Lower Cleveland Peninsula may increase as the human population of the Ketchikan area grows, and if deer populations and hunter success decline in areas closer to Ketchikan.

WAA	Hunter Demand	Minimum Deer Needed
612	114	1140
613	246	2460
614	15	150
715	22	220

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

LOWER CLEVELAND PENINSULA PLANNING AREA



Population Objectives

Population objectives allow for the reduction of average long-term population numbers in WAA's 612 and 715 by a maximum of 25% from pristine conditions to accommodate habitat loss from logging. They also reflect the need to maintain habitat capability in WAA 613 to provide for the high demand there. The population objective for WAA 614 also allows for some reduction in habitat capability but seeks to maintain a huntable population to meet current and future demand and ensure viability of the population.

WAA	Population Objective
612	1550
613	1666
614	500
715	716

Harvest Statistics — Lower Cleveland Peninsula
Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
612							155	100	83
613							218	133	188
614							0	5	23
715							21	7	7
Total	80	60	165	210	216	268	394	212	260

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
612							413	227	196
613							642	613	398
614							58	33	45
715							62	26	76
Total	260	180	395	610	689	1,002	1,175	899	715

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
612							71	61	76
613							146	61	91
614							8	10	17
715							13	0	5
Total	5	30	50	140	195	145	238	132	189

MISTY FJORDS

Wildlife Analysis Areas

716, 717, 718, 719, 820, 821, 822, 823, 824, 825, 826

Habitat Characteristics

Quality and Condition: In general, deer habitat in this planning area is quite poor. Steep cliffs and the mountains and icefields of the coast range dominate much of the planning area. In some places, long term habitat capability may not be high enough to sustain viable populations. Most of the area is within the Misty Fjords National Monument except for WAA 826 around the community of Hyder. Within the monument, all is designated wilderness except at the head of Wilson Arm and Boca de Quadra in WAA's 820, 821, and 822. That area surrounds the potential molybdenum mine at Quartz Hill.

Snow Rating: Except for the strip of coast along Dixon Entrance, which receives low and moderate average-annual snowfall, the entire area is in a high snowfall zone.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions.

Wildlife Analysis Area	1988 Capability
716	367
717	577
718	0
719	366
820	0
821	1400
822	3651
823	2911
824	0
825	0
826	0

Deer Population Status

Because of deep snow winters and generally poor quality habitat, deer populations are low. Deer populations and densities will probably never be high here. Deer are not known to exist in WAA's 718, 820, 824, 825, or 826.

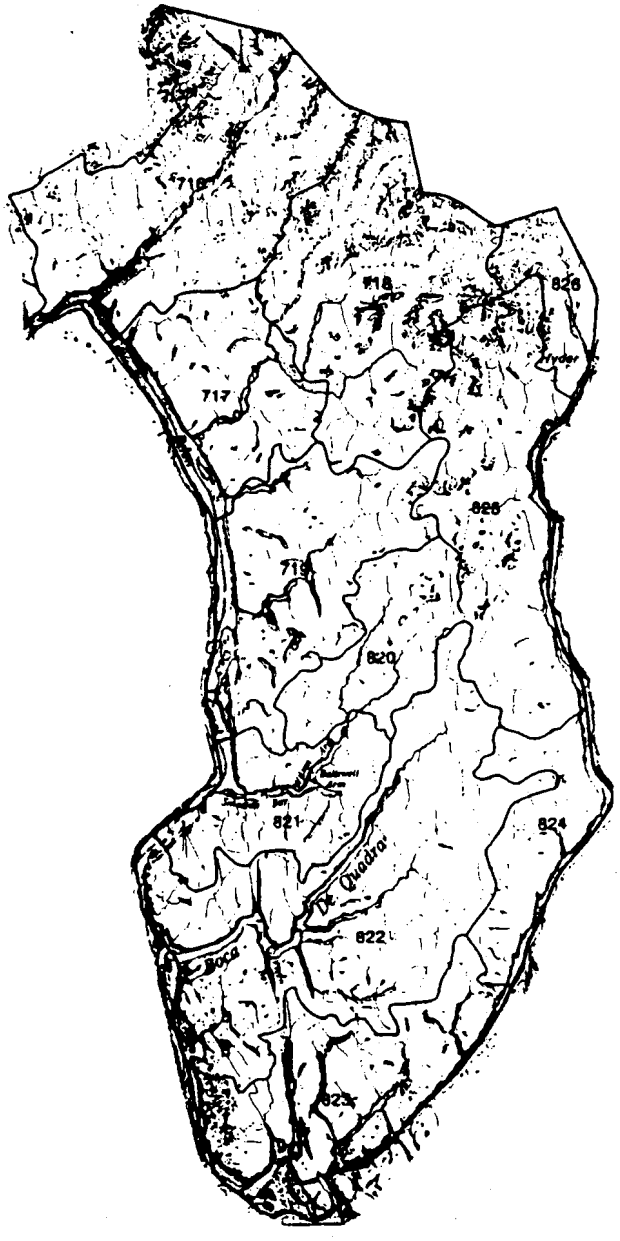
Human Use

Hunter Residency: Residents of Ketchikan, Metlakatla, and Yes Bay have reported hunting the Misty Fjords area since 1984.

Access: Access is predominantly by boat. Many lakes make float plane access possible to higher elevations.

Demand: Hunter effort and deer kill has been extremely low during the past decade, and no effort or kill was reported during the past 3 years. Hunter effort is so low that it is not likely by itself to affect viability of deer populations. Summer non-consumptive use by tourists, kayakers, etc. will probably increase as Misty Fjords tourism potential is developed. Development of the Quartz Hill molybdenum mine may increase hunter use of that area.

MISTY FJORDS PLANNING AREA



WAA	Hunter Demand	Minimum Deer Needed
716	*	*
717	0	0
718	0	0
719	*	*
820	*	*
821	19	190
822	*	*
823	10	100
824	0	0
825	0	0
826	0	0

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is based on a sustainable annual harvest rate of 10%. The method used to estimate demand is tied to current harvest. In areas where no deer have been taken by hunters, demand appears as zero. However, some level of demand must be assumed if hunters use an area even though they may not be successful. Those WAA's which have hunter use but for which hunter demand cannot be quantified are marked with an * in the above table.

Population Objectives

Because nearly all this area is designated wilderness, population objectives have been set at habitat capability. Population objectives also reflect the need to maintain maximum habitat capability to ensure viability of populations in some WAA's. The objectives also reflect a desire to increase the chances of hunting and nonhunting encounters in this low deer density area.

WAA	Population Objective
716	367
717	577
718	0
719	366
820	0
821	1400
822	3651
823	2911
824	0
825	0
826	0

Harvest Statistics — Misty Fjords
Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
716							0	0	5
717							0	0	0
718							0	0	0
719							0	7	5
820							0	7	0
821							6	0	6
822							5	1	8
823							12	7	0
824							0	0	0
825							0	0	0
826							0	0	0
Total	25	60	15	15	28	26	23	21	24

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
716							0	0	0
717							0	0	0
718							0	0	0
719							0	20	5
820							0	20	0
821							18	0	17
822							5	4	32
823							124	7	0
824							0	0	0
825							0	0	0
826							0	0	0
Total	90	90	50	30	85	111	147	51	54

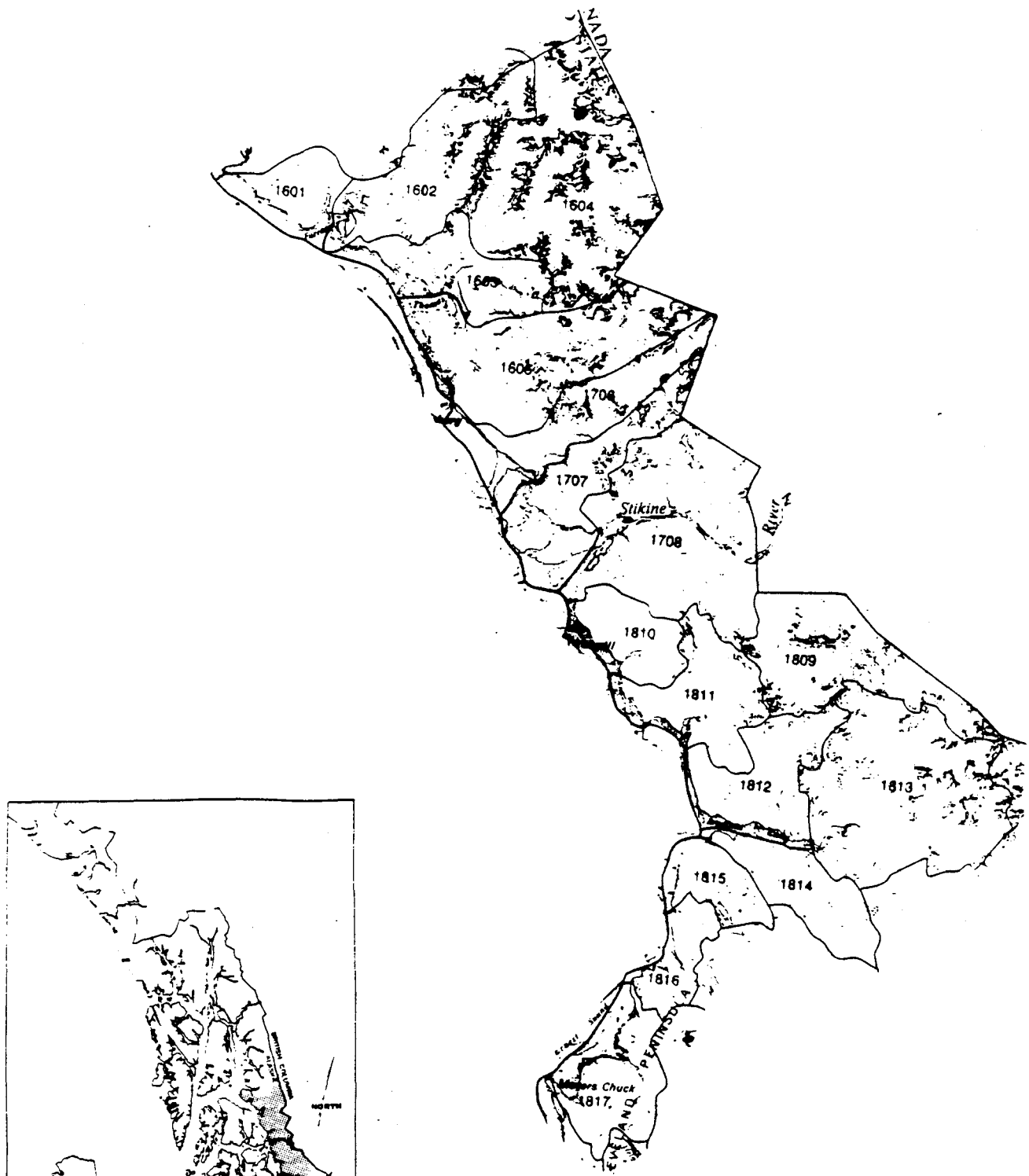
Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
716							0	0	0
717							0	0	0
718							0	0	0
719							0	0	0
820							0	0	0
821							12	0	1
822							0	0	0
823							6	0	0
824							0	0	0
825							0	0	0
826							0	0	0
Total	10	20	0	0	0	0	18	0	1

GAME MANAGEMENT UNIT 1B

CENTRAL MAINLAND

GAME MANAGEMENT UNIT 1B



Scale: 1 inch = 17.5 miles

MAINLAND -- CAPE FANSHAW TO STIKINE RIVER

Wildlife Analysis Areas
1601, 1602, 1603, 1604, 1605, 1706, 1707, 1708

Habitat Characteristics

Quality and Condition: The area is dominated by the precipitous mountains of the coast range. A large portion of the area is in designated wilderness. The Stikine-Le Conte Wilderness occupies the southern portion of the area. Habitat is generally poor. North of Le Conte Glacier black bears and wolves are present. From Le Conte south through the Stikine River valley there are brown bears as well. The extent of predation on deer in this area is unknown, however. There are scattered private land holdings on and around Farm Island in the southern part of WAA 1707.

Snow Rating: Throughout this planning area, drainages bordering the coast are rated as moderate average-snowfall zones. The inland areas all receive deep annual snowfall.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is for National Forest land only and is derived from analysis of deer habitat characteristics and average winter weather conditions. No habitat capability has been calculated for non-National Forest land or for WAA's where deer are not known to exist.

Wildlife Analysis Area	1988 Capability
1601	1508
1602	887
1603	697
1604	0
1605	974
1706	310
1707	973
1708	1089

Deer Population Status

In general, deer populations and densities are low, probably below habitat capability. Hunter reports, however, indicate deer populations in WAA's 1605 (Thomas Bay) and 1706 (northern shore of Le Conte) have increased in recent years. Deer are not known to occur in any portion of WAA 1604 which is entirely mountains and icefield. Hunters sampled by the annual deer hunter mail survey have not reported taking deer in the Stikine valley proper (WAA 1708) since at least 1987. However, biologists monitoring the Stikine moose hunt each year have seen hunters with deer, so we know some deer harvest occurs there. Nevertheless, deer numbers are thought to be low in the Stikine valley.

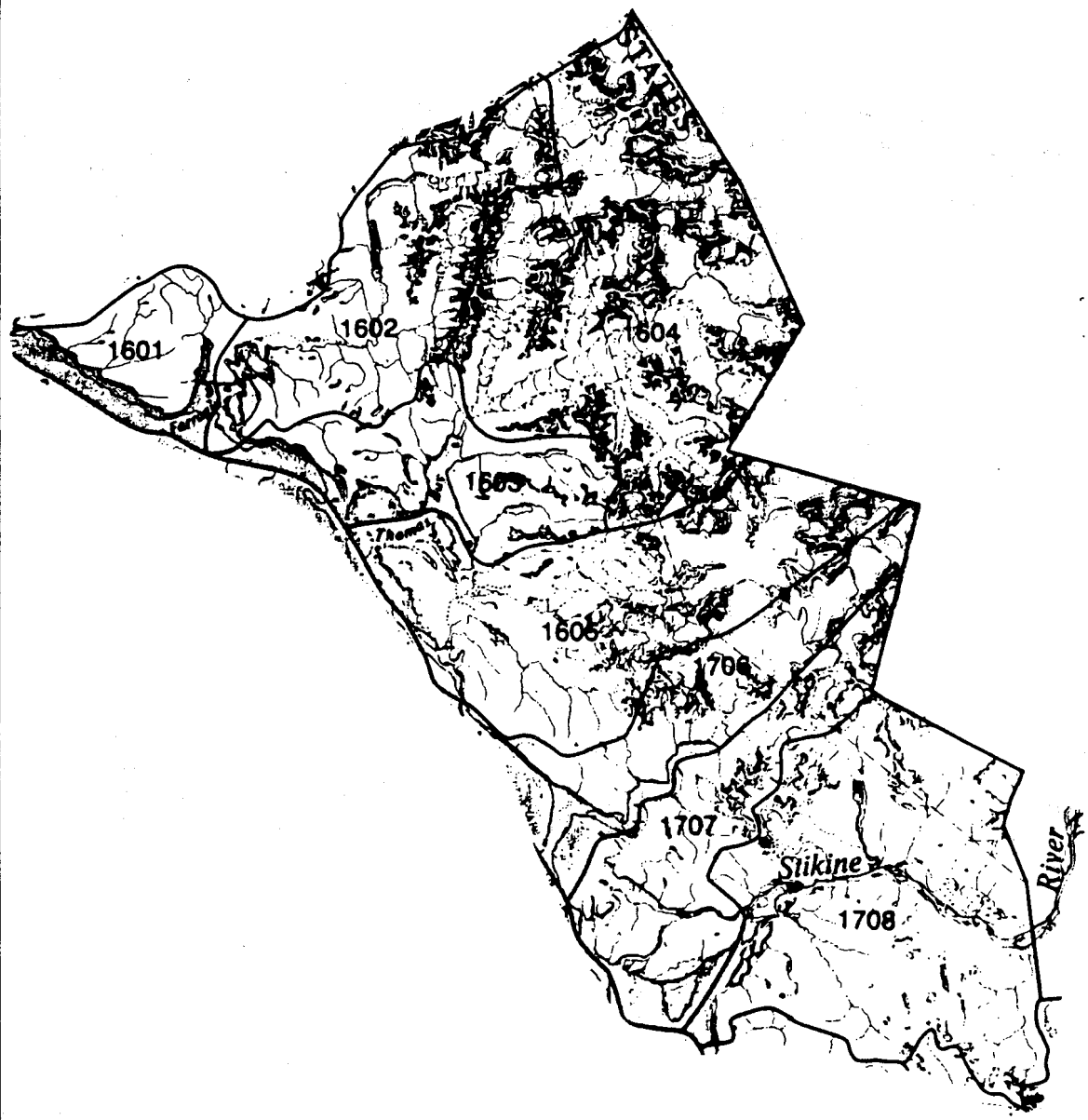
Human Use

Hunter Residency: Since 1984, residents of Petersburg, Wrangell, Meyers Chuck, Hobart Bay logging camp, and Kake have reported hunting the Fanshaw-Stikine mainland.

Access: Access is primarily by boat and is generally confined to areas on the coast where good anchorages exist. An extensive logging road network provides ATV, bicycle, and some highway vehicle access in Thomas Bay. The Stikine River provides boat access for hunters into the coast range.

Demand: Hunting effort is relatively low. Hunter effort is so low that it is not likely by itself to affect viability of deer populations. Most effort is from Thomas Bay south, and most deer are taken in the Thomas Bay area (WAA 1605). The effort in the Stikine is likely associated with the moose hunt there. Both reported hunting effort and days afield grew substantially from 1987 to 1989 in the Stikine valley and south shore of Le Conte (WAA's 1707 and 1708), but success has not increased. Despite poor success throughout the area, hunting effort is likely to remain high if moose hunters report their days afield as deer

MAINLAND - CAPE FANSHAW TO STIKINE RIVER PLANNING AREA



hunting days as well as moose hunting days. Nonhunting use is expected to increase over time becuase of the attraction of wilderness areas.

WAA	Hunter Demand	Minimum Deer Needed
1601	*	*
1602	6	60
1603	6	60
1604	0	0
1605	29	290
1706	12	120
1707	18	180
1708	*	*

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is based on a sustainable annual harvest rate of 10%. The method used to estimate demand is tied to current harvest. In areas where no deer have been taken by hunters, demand appears as zero. However, some level of demand must be assumed if hunters use an area even though they may not be successful. Those WAA's which have hunter use but for which hunter demand cannot be quantified are marked with an * in the above table. For WAA 1707, no deer were taken in 1987 so 1988 harvest was used to compute demand. For WAA's 1602 and 1603, no deer were taken in 1987 or 1988 so 1989 harvest was used to compute demand.

Population Objectives

Population objectives reflect the low density and tenuous viability of some deer populations in this area. While allowing for reductions in long-term populations to accommodate loss of habitat due to logging, the population objectives for WAA 1601, 1602, and 1603 reflect the desire to maintain at least 75% of pristine habitat capability to provide for current and future demand for deer and to ensure that the populations remain viable. Because of extensive earlier logging, habitat capability in WAA 1605 (Thomas Bay) is already about 75% of pristine conditions. Further loss of habitat would be undesirable in this WAA which has the highest hunter demand of the planning area; for that reason the population objective has been set equal to current habitat capability. Population objectives in wilderness areas (WAA's 1706, 1707, and 1708) have been set equal to habitat capability.

WAA	Population Objective
1601	1282
1602	754
1603	592
1604	0
1605	974
1706	310
1707	973
1708	1089

Harvest Statistics — Cape Fanshaw to Stikine River
Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1601							5	0	0
1602							5	5	9
1603							5	11	9
1604							0	0	0
1605							39	95	83
1706							29	11	18
1707							6	17	29
1708							8	12	27
Total	90	45	45	40	57	89	91	145	162

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1601							10	0	0
1602							5	26	32
1603							146	11	32
1604							0	0	0
1605							165	317	270
1706							78	21	23
1707							31	65	301
1708							90	91	292
Total	400	190	130	280	238	523	525	531	951

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1601							0	0	0
1602							0	0	5
1603							0	0	5
1604							0	0	0
1605							24	42	37
1706							10	11	9
1707							0	11	5
1708							0	0	0
Total	15	5	5	5	25	62	34	64	60

MAINLAND -- SOUTH OF STIKINE

Wildlife Analysis Areas
1809, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817

Habitat Characteristics

Quality and Condition: The area is dominated by the precipitous mountains of the coast range. Habitat is generally poor. Brown and black bears and wolves are present. The extent of predation on deer is unknown, however. A small portion of WAA 1810 across Blake Channel from the city of Wrangell is non-National Forest land. Extensive logging has occurred in WAA's 1812, 1814, and 1813 along Bradfield Canal with consequent loss of habitat. Habitat capability in WAA's 1811, 1813, 1814, and 1815 are so low the viability of populations in those areas may be in question. The Anan Creek area (WAA 1815) has been given permanent LUD II status by Congress, precluding logging or other habitat loss in that WAA. Two highly mineralized areas, in WAA's 1811 and 1817 may put some deer habitat at risk.

Snow Rating: Throughout this planning area, drainages bordering the coast are rated as moderate average-snowfall zones. The inland areas all receive deep annual snowfall.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions. Habitat capability is for National Forest land only and is derived from analysis of deer habitat characteristics and average winter weather conditions. Habitat capability for non-National Forest land has not been calculated at this time. No habitat capability has been calculated for WAA's where deer are not known to exist.

Wildlife Analysis Area	1988 Capability
1809	0
1810	786
1811	384
1812	1227
1813	373
1814	478
1815	448
1816	784
1817	1808

Deer Population Status

Deer populations and densities are low, probably below habitat capability. Deer are not known to occur in any portion of WAA 1809 which is mostly mountains and icefield.

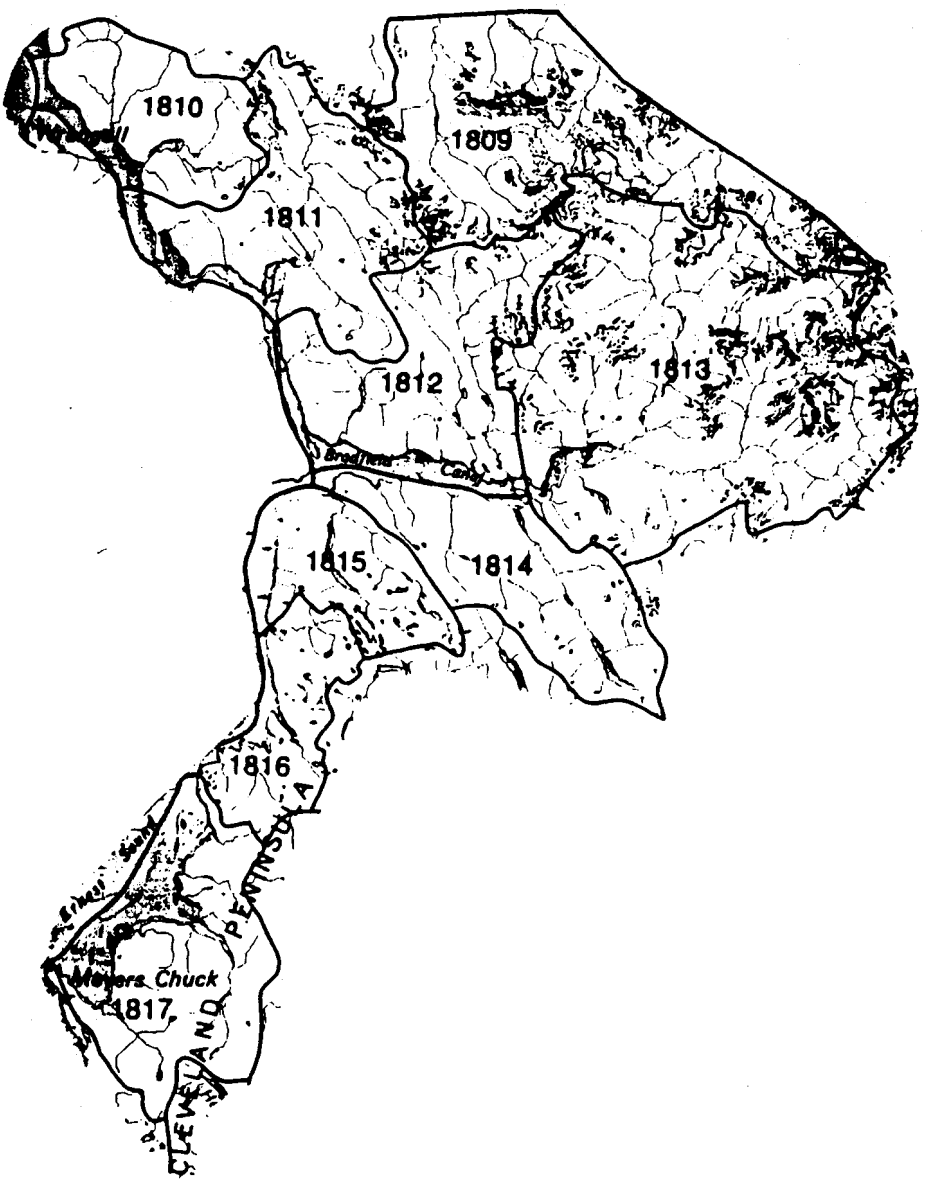
Human Use

Hunter Residency: Since 1984, residents of Wrangell, Meyers Chuck, Ketchikan, Tenakee Springs, Thorne Bay, Juneau, and Sitka have reported hunting at least occasionally on the mainland south of the Stikine River valley. Wrangell, Meyers Chuck, and Ketchikan hunters use the area the most. Meyers Chuck and Ketchikan hunters regularly concentrate on WAA 1817, while Wrangellites regularly hunt the other areas.

Access: Access is primarily by boat at the coast. There are some lakes which are large enough to allow float plane access.

Demand: Hunting effort is relatively low. Hunter effort is so low that it is not likely by itself to affect viability of deer populations. Nonhunting use is assumed to exist. With the growing popularity of Anan Creek (WAA 1815) as a bear viewing area, increased nonhunting use of deer is also expected in that WAA and others in the planning area.

MAINLAND - SOUTH OF STIKINE PLANNING AREA



WAA	Hunter Demand	Minimum Deer Needed
1809	0	0
1810	23	230
1811	*	*
1812	*	*
1813	*	*
1814	0	0
1815	*	*
1816	*	*
1817	51	510

Note: Hunter demand is based on the results on a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is based on a sustainable annual harvest rate of 10%. The method used to estimate demand is tied to current harvest. In areas where no deer have been taken by hunters, demand appears as zero. However, some level of demand must be assumed if hunters use an area even though they may not be successful. Those WAA's which have hunter use but for which hunter demand cannot be quantified are marked with an * in the above table. No harvest was reported in WAA 1810 during 1987 so 1988 harvest was used to determine demand.

Population Objectives

Population objectives reflect the low density and tenuous viability of some deer populations in this area. Habitat capability are so low in WAA's 1811, 1813, 1814, and 1815 that viability of the deer populations could be in question if any habitat were to be lost. While allowing for reductions in long-term populations to accommodate loss of habitat due to logging, the population objectives for WAA's 1810, 1812, 1816, and 1817 reflect the desire to maintain at least 75% of pristine habitat capability to provide for current and future demand for deer and to ensure that the populations remain viable.

WAA	Population Objective
1809	0
1810	590
1811	384
1812	920
1813	373
1814	478
1815	448
1816	588
1817	1356

Harvest Statistics — Mainland South of Stikine
Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1809							0	0	0
1810							6	12	5
1811							6	0	5
1812							6	0	0
1813							13	0	0
1814							0	0	0
1815							0	0	5
1816							0	0	5
1817							48	31	38
Total	30	20	35	30	43	30	73	43	58

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1809							0	0	0
1810							19	12	5
1811							0	0	10
1812							38	0	0
1813							19	0	0
1814							0	0	0
1815							0	0	19
1816							0	0	5
1817							118	47	107
Total	90	70	70	150	121	38	194	59	146

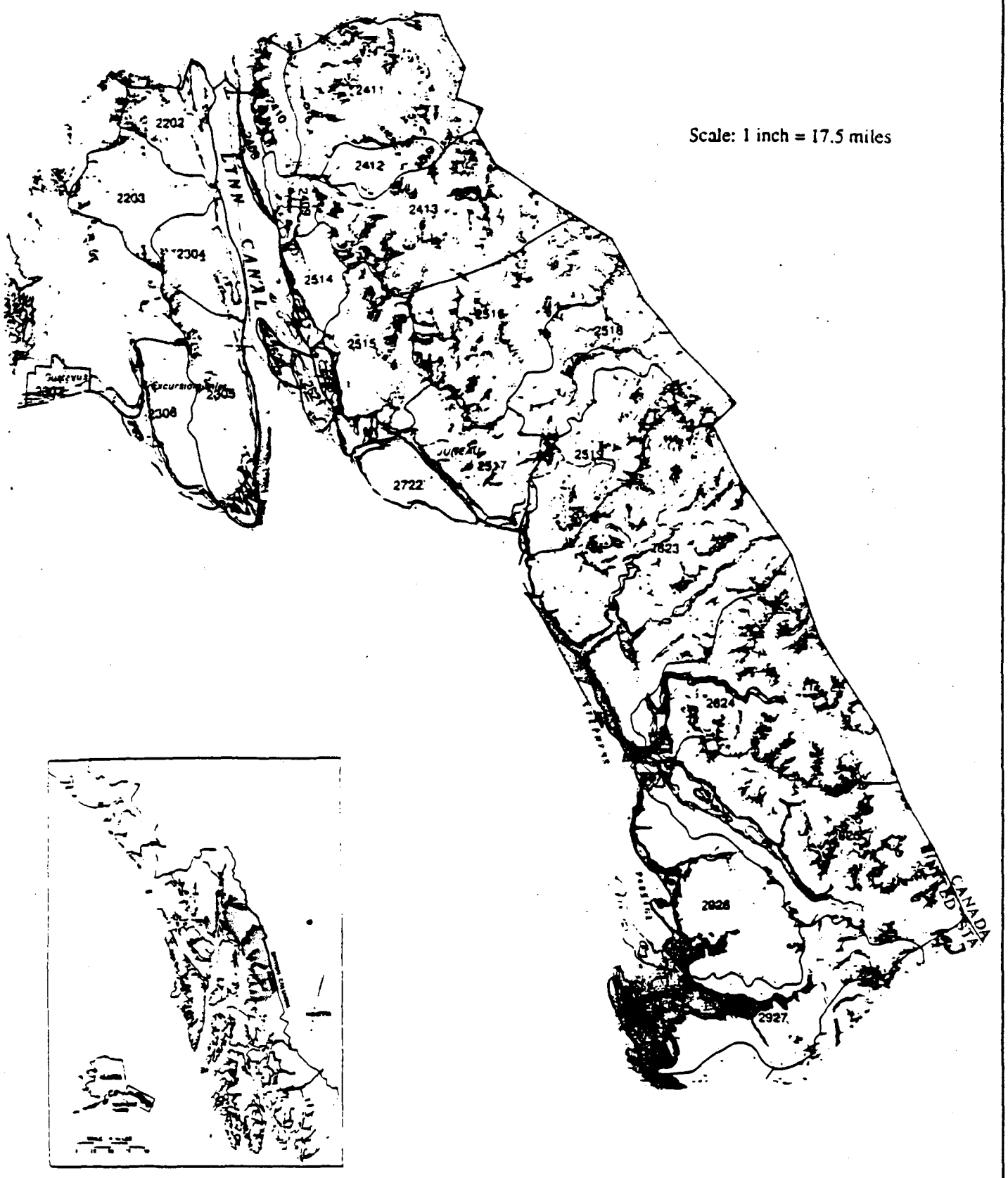
Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1809							0	0	0
1810							0	12	0
1811							0	0	0
1812							0	0	0
1813							0	0	0
1814							0	0	0
1815							0	0	0
1816							0	0	0
1817							29	25	13
Total	10	0	15	0	13	8	29	37	13

GAME MANAGEMENT UNIT 1C

NORTHERN MAINLAND

GAME MANAGEMENT UNIT 1C



CHILKAT RANGE

Wildlife Analysis Areas
2202, 2203, 2304, 2305, 2306, 2307

Habitat Characteristics

Quality and Condition: Both Sullivan Island and the Point Couverden-Excursion Inlet area have the best deer habitat in the planning area but are also subject to logging. Extensive logging has already occurred in the Couverden area with a consequent loss of good habitat. This planning area also includes private land around the community of Gustavus. Black and brown bears and wolves occur in the Chilkat Range. Predation, deep snow, and relatively little low-elevation forest combine to keep deer populations low.

Snow Rating: Sullivan Island is rated as a moderate average-snowfall area. The rest of the Chilkat Range receives heavy average-annual snowfall.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions. Habitat capability has not been computed for areas where deer are not known to exist.

Wildlife Analysis Area	1988 Capability
2202	167
2203	0
2304	0
2305	356
2306	237
2307	0

Deer Population Status

Deer densities in the Chilkat Range are very low. Huntable populations exist only on Sullivan Island in WAA 2202, and along the coast in WAA's 2305 and 2306. Deer are not known to exist in WAA 2202 other than on Sullivan or in WAA's 2203, 2304, or 2307. A pellet group survey in 1990 revealed a moderate deer population on Sullivan Island.

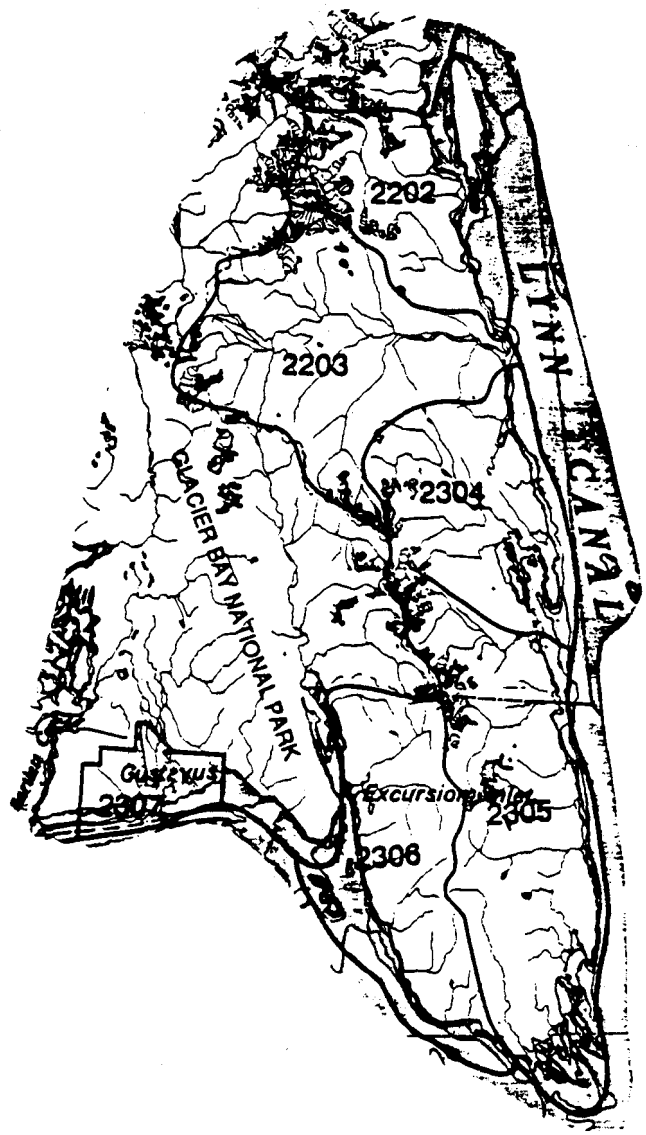
Human Use

Hunter Residency: Since 1984, hunter use of Sullivan Island has ranged from zero to nearly 30 hunters annually. About 70% of hunters using Sullivan are from Haines, the rest are from Juneau. Sullivan is the closest deer hunting area to Haines. Hunters using the Courverden-Excursion Inlet area (WAA's 2305 and 2306) are primarily from Juneau, although Petersburg and Sitka residents have hunted there occasionally since 1984.

Access: Access is primarily by boat. There are few protected anchorages at Sullivan Island. A state marine park has been established at Point Courverden which may attract an increasing number of hunters and other recreationists to the area. Logging roads extending up some valleys in the Couverden area provide vehicle access to interior areas for loggers in camp at Couverden.

Demand: No hunter kill has been reported for WAA's 2203, 2304, or 2307 during the 1980's. Sullivan Island is the only part of WAA 2202 known to be hunted. The Sullivan Island deer population is the result of a transplant of eight deer by the U.S. Fish and Wildlife Service between 1951 and 1954 (Burris and McKnight 1973). An average of 12 hunters annually has hunted the southern parts of the Chilkat Range since 1984. We foresee some increased use in the Chilkat Range area as competition increases in areas closer to Juneau. Deer populations are unlikely ever to increase significantly, however.

CHILKAT RANGE PLANNING AREA



WAA	Hunter Demand	Minimum Deer Needed
2202	59	590
2203	0	0
2304	0	0
2305	13	130
2306	8	80
2307	0	0

Population Objectives

Population objectives reflect the relatively high hunter demand for deer on Sullivan Island and the need to maintain habitat capability to meet that demand. They also reflect a desire to maintain a huntable deer population in the Pt. Courverden-Excursion Inlet area and ensure viability of that population. The objectives also reflect a desire to provide for nonhunting demand for deer in all areas. In WAA's where deer populations are very low or deer are not known to occur, no population objective has been set.

WAA	Population Objective
2202	167
2203	0
2304	0
2305	356
2306	237
2307	0

Harvest Statistics — Chilkat Range
Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
2202							18	16	13
2203							0	0	0
2304							0	0	0
2305							9	6	10
2306							3	0	5
2307							0	0	0
Total	40	80	30	25	54	29	30	22	28

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
2202							87	9	21
2203							0	0	0
2304							0	0	0
2305							14	6	15
2306							16	0	21
2307							0	0	0
Total	150	260	130	180	82	57	117	15	57

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
2202							0	17	4
2203							0	0	0
2304							0	0	0
2305							9	6	5
2306							0	0	11
2307							0	0	0
Total	15	60	50	15	30	0	9	23	20

JUNEAU MAINLAND

Wildlife Analysis Areas
2408, 2409, 2410, 2411, 2412, 2413,
2514, 2515, 2516, 2517, 2518, 2519

Habitat Characteristics

Quality and Condition: Only a small percentage of this planning area is forested and potential deer habitat. Most of the area is part of the Juneau icefield and coastal mountain range. Non-National Forest state, municipal, and privately owned lands occupy large parts of WAA's 2517, 2515, and 2514. Portions of WAA's 2409, 2410, and 2411 were recently given permanent LUD II designation by Congress. Black and brown bears and wolves inhabit the area, and predation probably contributes to keeping deer numbers low.

Snow Rating: Except for the area immediately around the city of Juneau, which receives moderate average-annual snowfall, the area is in a heavy snowfall zone.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is for National Forest land only and is derived from analysis of deer habitat characteristics and average winter weather conditions. Habitat capability for non-National Forest land has not been calculated at this time. No habitat capability has been calculated for WAA's where deer are not known to exist.

Wildlife Analysis Area	1988 Capability
2408	100
2409	215
2410	0
2411	0
2412	0
2413	0
2514	555
2515	870
2516	0
2517	457
2518	0
2519	0

Deer Population Status

Deer are not known to occur in WAA's 2410, 2411, 2412, 2518, or 2519. Deer probably do not occur in WAA's 2413 or 2516 which are almost entirely in the icefield. Elsewhere, deer are few and occur in low densities, probably below habitat capability.

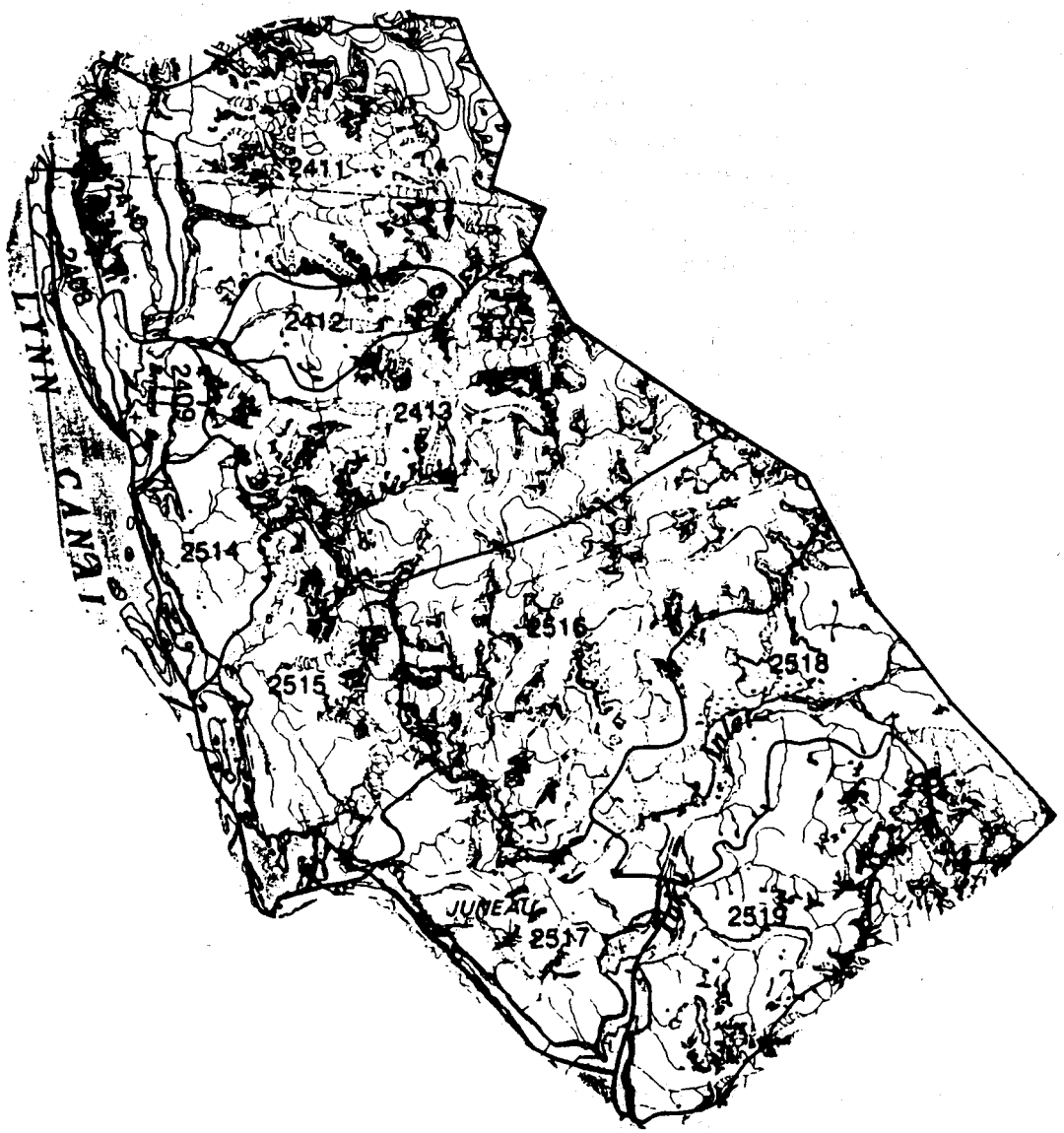
Human Use

Hunter Residency: Residents of Juneau are the primary hunters in this area, although a few from Haines and Ketchikan have also reported hunting here since 1984.

Access: WAA's 2514, 2515, and most of 2517 are accessible from the Juneau road system. Boat access is used for WAA's 2408 and 2409.

Demand: More deer were taken from the Juneau Mainland area in the early 1980's than in recent years but prior to 1987, no breakdown on hunter use of specific WAA's is available. Since 1987, hunters have reported using only WAA's 2409, 2514, 2515, and 2517. Low deer density and its relative remoteness from Juneau and Haines probably account for the lack of hunter use of WAA 2408. However, development of the Kensington mine may result in some hunting in the future. Deer kill has only been reported from WAA 2517. It is likely most deer taken have come from the portion of that WAA south and east of the city of Juneau.

JUNEAU MAINLAND PLANNING AREA



Despite low deer populations, hunting is permitted in the Juneau Mainland area. The low density of the population results in low hunter success and it is thought the low level of harvest will not significantly affect current deer numbers. Although hunting is likely to continue, the four deer bag limit may be reduced in the future.

WAA	Hunter Demand	Minimum Deer Needed
2408	0	0
2409	*	*
2410	0	0
2411	0	0
2412	0	0
2413	0	0
2514	*	*
2515	*	*
2516	0	0
2517	28	280
2518	0	0
2519	*	*

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is based on a sustainable annual harvest rate of 10%. The method used to estimate demand is tied to current harvest. In areas where no deer have been taken by hunters, demand appears as zero. However, some level of demand must be assumed if hunters use an area even though they may not be successful. Those WAA's which have hunter use but for which hunter demand cannot be quantified are marked with an * in the above table.

Population Objectives

The population objective for WAA 2515 allows for a reduction of 25% of average long-term deer populations to accommodate habitat loss. Population objectives in all other WAA's are equal to long-term habitat capability estimates. Habitat capabilities are so low in those WAA's that viability of deer populations could be in question if any habitat were to be lost. In WAA's where deer are not known to occur, no population objective has been set.

WAA	Population Objective
2408	100
2409	215
2410	0
2411	0
2412	0
2413	0
2514	555
2515	650
2516	0
2517	457
2518	0
2519	0

Harvest Statistics --- Juneau Mainland
Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
2408							0	0	0
2409							5	0	0
2410							0	0	0
2411							0	0	0
2412							0	0	0
2413							0	0	0
2514							83	25	15
2515							58	12	20
2516							0	0	0
2517							53	36	55
2518							0	0	0
2519							0	0	5
Total	275	270	155	160	169	105	169	73	95

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
2408							0	0	0
2409							24	0	0
2410							0	0	0
2411							0	0	0
2412							0	0	0
2413							0	0	0
2514							161	82	40
2515							82	100	25
2516							0	0	0
2517							92	62	95
2518							0	0	0
2519							0	0	15
Total	870	830	345	460	258	358	359	244	175

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
2408							0	0	0
2409							0	0	0
2410							0	0	0
2411							0	0	0
2412							0	0	0
2413							0	0	0
2514							0	0	0
2515							0	0	0
2516							0	0	0
2517							20	17	10
2518							0	0	0
2519							0	0	0
Total	40	40	60	10	25	21	20	17	10

SHELTER-LINCOLN ISLANDS

Wildlife Analysis Areas 2620, 2621

Habitat Characteristics

Quality and Condition: Shelter and Lincoln islands are located in Lynn Canal a couple of miles east and north of the northern end of Admiralty Island. Shelter Island, the larger of the two, is primarily forested and has better deer habitat. Lincoln Island has large areas of muskeg and many beaver ponds. Bears are infrequent visitors to the islands and the general lack of predators probably explains why deer densities are substantially higher than on the mainland. Two portions of Shelter totalling about 40% of the island (the south end and a band across the island at Halibut and Handtroller coves in the north) are state and privately owned. Development on private and state land has been limited to low density residential lots. Little habitat has been affected but the addition of resident hunters may affect the deer population.

Snow Rating: Both islands lie in a moderate average-snowfall zone.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions. Habitat capability has been given for the two islands together and has been calculated only for National Forest land.

Wildlife Analysis Area	1988 Capability
2620 & 2621	345

Deer Population Status

Pellet group surveys have been conducted regularly on Shelter since 1984. Surveys of Lincoln Island were conducted from 1984 through 1986. Deer densities appear to have peaked on the islands in 1986. They reached a low on Shelter in 1989, and increased somewhat in 1990. Deer populations have probably exceeded long-term habitat capability in recent years as a result of mild winters.

Human Use

Hunter Residency: Although Juneau hunters predominate, residents of Haines and Tenakee Springs have occasionally reported hunting this area since 1984.

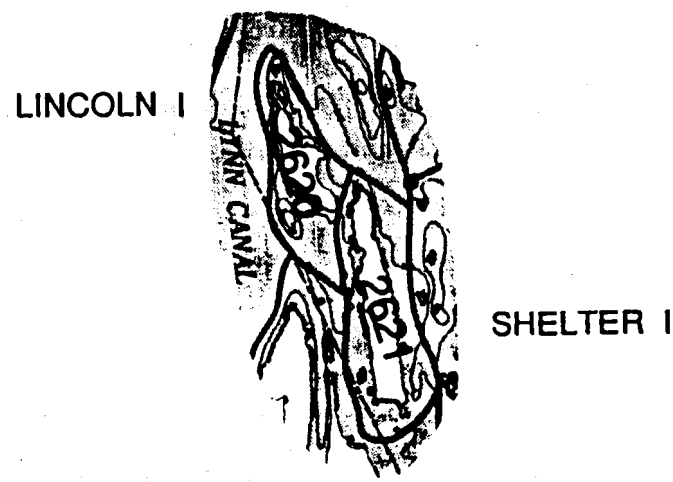
Access: The islands are within easy skiff access of the Juneau road system.

Demand: For their size, Shelter and Lincoln Islands are quite heavily hunted. About 5% of Juneau hunters take up to 3% of the city's total deer harvest from those islands. Shelter is the more heavily used. Residential development began on Shelter in the early and mid 1980's resulting in an increase of hunter use. The islands' easy access and their general lack of bears make them attractive alternatives to Admiralty Island for many hunters in the fall. Demand has greatly exceeded long-term habitat capability in recent years. Future declines in deer numbers will mean decreased success for hunters and more restrictive hunting regulations for the islands. Juneau hunters would have to hunt elsewhere to meet their demand for deer. A state marine park has been established on Shelter Island. Both islands are destinations for recreational boaters during spring and summer. Nonconsumptive use and demand for deer is also assumed to exist.

WAA	Hunter Demand	Minimum Deer Needed
2620	55	550
2621	102	1020

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

SHELTER - LINCOLN ISLANDS PLANNING AREA



Population Objectives
The population objectives reflect the high hunter demand and the need to maintain existing habitat capability to meet both hunting and non-hunting demand. The objective is for all land on the islands including state and private land and so exceeds the habitat capability figure above which is only for National Forest land.

WAA	Population Objective
2620	190
2621	385

Harvest Statistics — Shelter-Lincoln Islands
Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
2620							93	38	65
2621							141	131	157
Total	190	290	140	170	252	311	200	162	202

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
2620							205	50	100
2621							415	223	666
Total	485	830	540	550	737	803	620	273	766

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
2620							39	25	20
2621							73	36	104
Total	80	60	50	100	155	131	112	61	124

DOUGLAS ISLAND
Wildlife Analysis Area 2722

Habitat Characteristics

Quality and Condition: Habitat quality is generally good. Approximately 30% of the island is in private or municipal ownership. Much of the municipal and private land remains undeveloped. Development of that land, which includes some of the best habitat on the island, would significantly reduce the habitat capability, particularly because development of private land would likely involve logging.

Snow Rating: Douglas is in a moderate average-annual snowfall zone.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is for National Forest land only and is derived from analysis of deer habitat characteristics and average winter weather conditions. Habitat capability for non-National Forest land has not been calculated at this time.

Wildlife Analysis Area	1988 Capability
2722	1364

Deer Population Status

Deer pellet group surveys showed deer densities at Inner Point on the south side of Douglas ranged between 40 and 63 deer per square mile during the 1980's. Deer populations probably exceed long-term habitat capability now as a result of recent mild winters. But after one or more harder winters, deer populations will decline to levels near long-term habitat capability.

Human Use

Hunter Residency: Juneau hunters are the main users of Douglas Island. Residents of Haines, Skagway, and Ketchikan have also reported hunting Douglas periodically since 1984.

Access: The popularity of Douglas is due to its proximity to Juneau and to over one third of the island being accessible from the Juneau road system.

Demand: In terms of percentage of hunters, Douglas Island is the WAA most heavily hunted by Juneau residents. Over 17% of Juneau hunters regularly hunt Douglas each year. They harvest only about 8% of Juneau's total kill, however. Hunter demand greatly exceeds long-term habitat capability on National Forest land. Even if habitat capability of private, state, and municipal lands on the island were included, demand would still exceed habitat capability. Future declines in deer numbers will mean decreased success for hunters and more restrictive hunting regulations for the island.

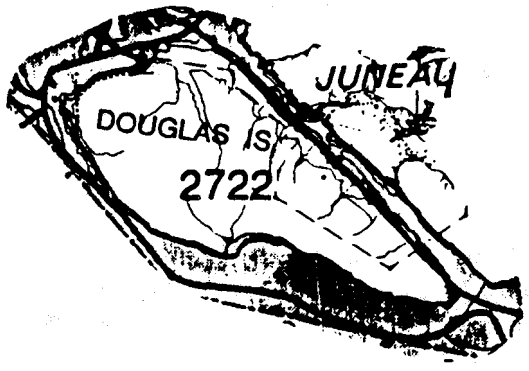
WAA	Hunter Demand	Minimum Deer Needed
2722	530	5,300

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

Population objectives reflect the high hunter demand and the need to preserve habitat to provide deer for that demand. The objective is for the entire island including state, private, and municipal land and so exceeds the habitat capability figure above which is only for National Forest land.

DOUGLAS ISLAND PLANNING AREA



WAA	Population Objective
2722	1950

Harvest Statistics — Douglas Island

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
2722	410	580	595	680	820	642	842	735	697
Total	410	580	595	680	820	642	842	735	697

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
2722	1190	1850	2000	2270	2840	2559	2875	2299	1725
Total	1190	1850	2000	2270	2840	2559	2875	2299	1725

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
2722	100	120	230	270	317	265	379	319	321
Total	100	120	230	270	317	265	379	319	321

MAINLAND -- TAKU INLET TO CAPE FANSHAW

Wildlife Analysis Areas 2823, 2824, 2825, 2926, 2927

Habitat Characteristics

Quality and Condition: Habitat quality is generally poor. Most land is quite steep and WAA's 2823, 2824, and 2825 are mostly coast range mountains and icefield. Black and brown bears and wolves are present throughout the area. All of WAA 2825 (including Harbor Island), nearly all of WAA 2824, and a large portion of WAA 2926 are in National Forest wilderness areas. Much of WAA 2926 that is not in wilderness is privately owned. It is expected that all habitat on private land will shortly be eliminated by logging.

Snow Rating: The entire area, except for Harbor Island in Holkham Bay which is rated moderate, is in a deep average-annual snowfall zone.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is for National Forest land only and is derived from analysis of deer habitat characteristics and average winter weather conditions. Habitat capability for non-National Forest land has not been calculated at this time. No habitat capability has been calculated for WAA's where deer are not known to exist. Habitat capability for WAA 2825 is based entirely on that of Harbor Island in Holkham Bay. Habitat capability for Harbor Island is based on pellet group surveys of the island.

Wildlife Analysis Area	1988 Capability
2823	234
2824	0
2825	60
2926	1255
2927	750

Deer Population Status

Deer densities are quite low in all areas. Deer are not known to exist in WAA 2824 or in WAA 2825 with the exception of Harbor Island.

Human Use

Hunter Residency: Communities whose residents have hunted in the Taku to Fanshaw area of the mainland since 1984 include: Juneau, Hobart Bay and Cube Cove logging camps, Petersburg, Wrangell, Angoon, Ketchikan, and Kake.

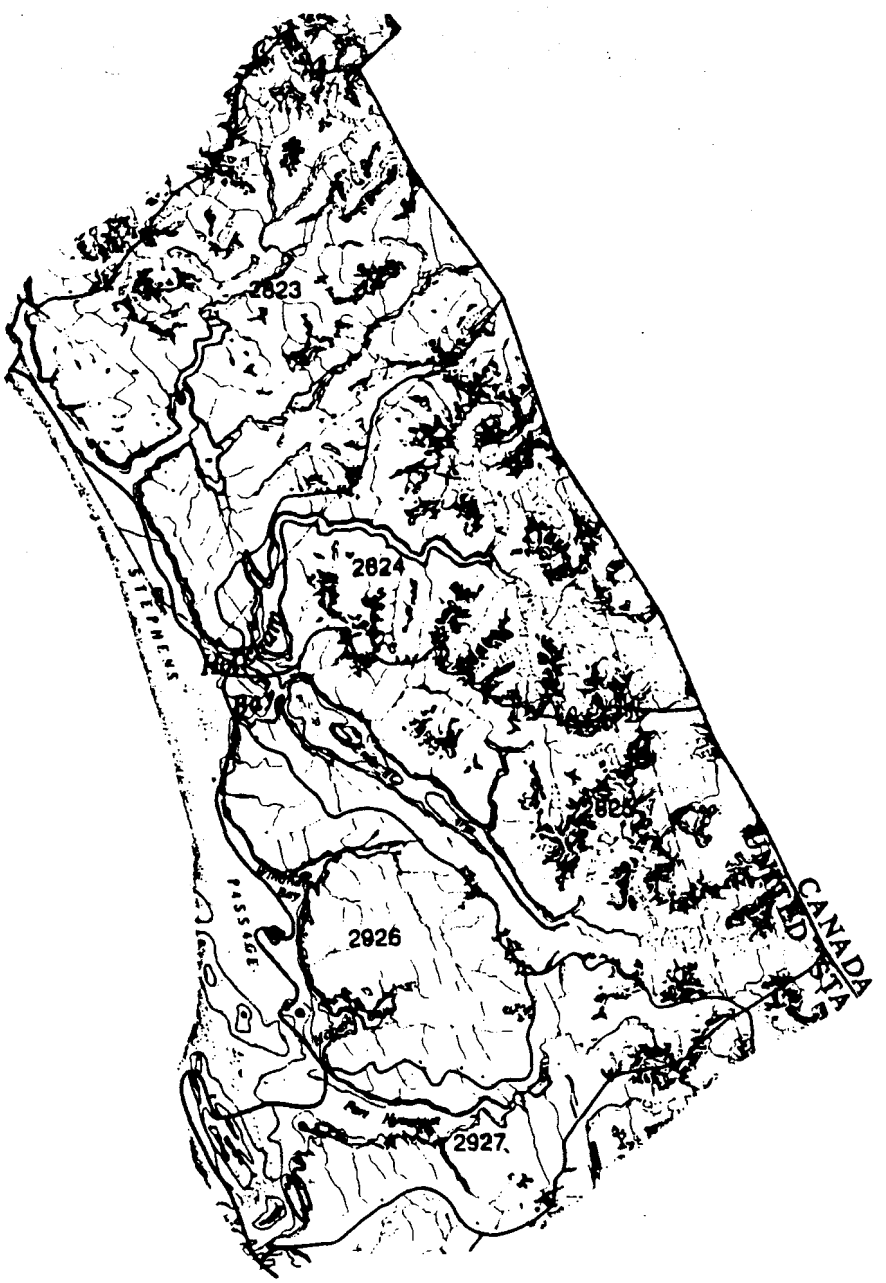
Access: Access is mostly by boat. Loggers at Hobart Bay probably use the logging road system there.

Demand: Hunter effort in the Taku-Fanshaw area has been light overall. In recent years, most effort has been associated with logging in the Hobart Bay area of WAA 2926. Reported effort and harvest in WAA 2824 is undoubtedly occurring on Harbor Island which is technically in WAA 2825. Annual deer hunter survey maps show the island straddling the boundary between those WAA's, and thus, some confusion in hunter reports is inevitable. Nonhunting use is likely to increase at least in the wilderness areas.

WAA	Hunter Demand	Minimum Deer Needed
2823	*	*
2824	*	*
2825	8	80
2926	18	180
2927	*	*

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them.

MAINLAND - TAKU INLET TO CAPE FANSHAW PLANNING AREA



Minimum deer needed is 10 times that demand and is based on a sustainable annual harvest rate of 10%. The method used to estimate demand is tied to current harvest. In areas where no deer have been taken by hunters, demand appears as zero. However, some level of demand must be assumed if hunters use an area even though they may not be successful. Those WAA's which have hunter use but for which hunter demand cannot be quantified are marked with an * in the above table.

Population Objectives

Population objectives reflect the low density and tenuous viability of deer populations in this area. Habitat capabilities are so low in WAA's 2823, 2825, and 2927 that viability of deer populations could be in question if any habitat were to be lost. The population objective for WAA 2926 reflects the desire to maintain at least 75% of pristine habitat capability on non-wilderness land to provide for current and future demand for deer.

WAA	Population Objective
2823	234
2824	0
2825	60
2926	1128
2927	750

Harvest Characteristics---Taku to Fanshaw
Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
2823							0	13	10
2824							0	25	0
2825							0	0	5
2926							7	12	13
2927							0	5	6
Total	20	55	35	40	20	42	7	42	32

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
2823							0	13	20
2824							0	50	0
2825							0	0	5
2926							24	90	117
2927							0	11	33
Total	75	210	95	150	61	58	24	164	175

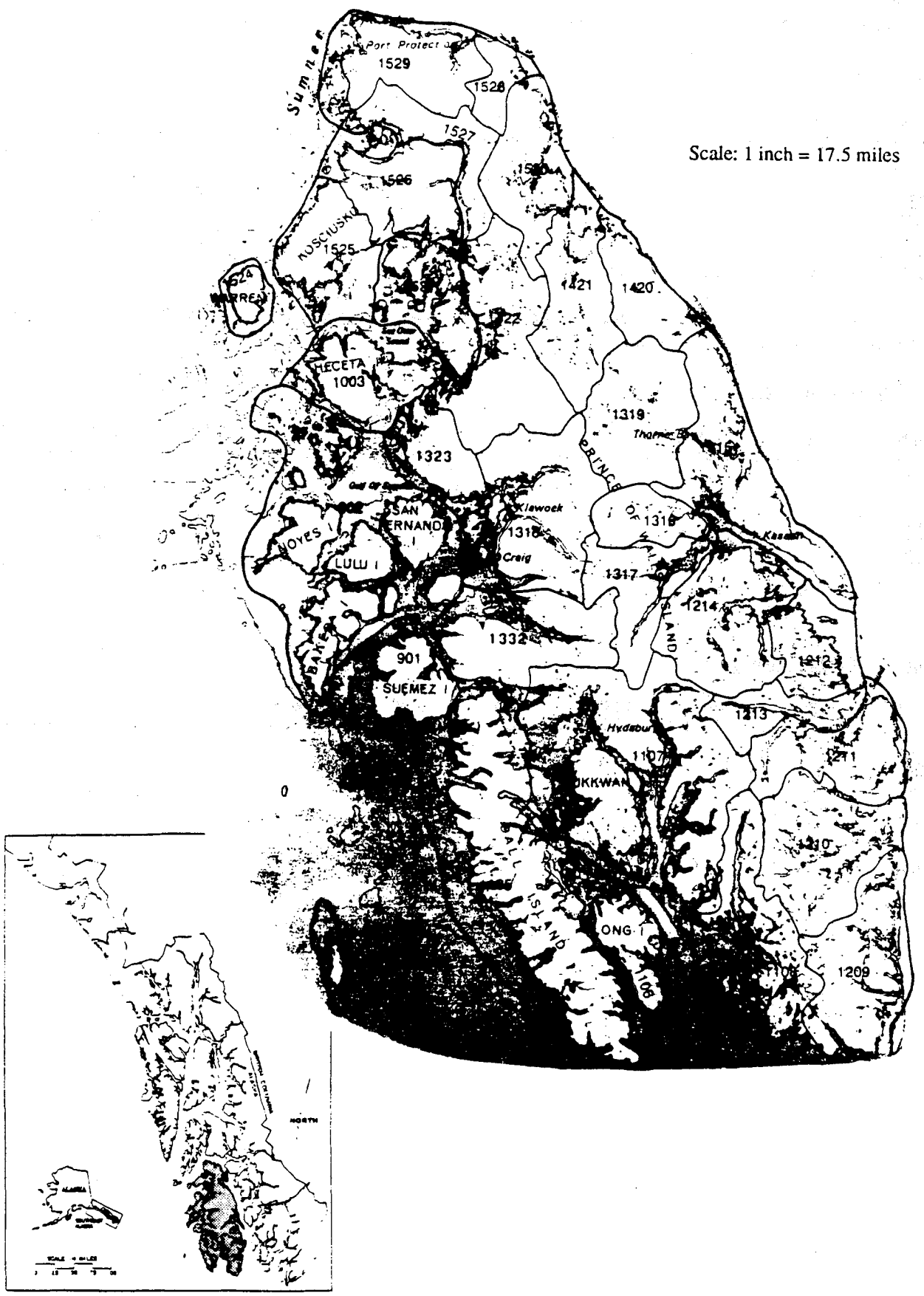
Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
2823							0	0	0
2824							0	13	0
2825							0	0	5
2926							1	9	9
2927							0	0	0
Total	10	10	10	0	0	16	1	22	14

GAME MANAGEMENT UNIT 2

PRINCE OF WALES ARCHIPELAGO

GAME MANAGEMENT UNIT 2



GAME MANAGEMENT UNIT 2
INTRODUCTION

Population Status and Trend

Southeast Alaska is at the northern edge of the range for deer, and populations are subject to great fluctuations because of winter weather and predators. The most recent population low, which followed very severe winters in 1968-69 and 1971-72, carried through until the early 1980's when noticeable population increases began. Currently, deer numbers are moderate to high in much of the area.

In the early 1980's deer populations increased in the northern and western portions of GMU2 , although there were still major portions of the unit where deer numbers remained low.

Currently deer populations are on the rise throughout Unit 2, but densities vary within the unit. The winter of 1988-89 was somewhat more severe than other winters of the last 10 to 15 years. It caused some mortality in areas of heavy snow accumulation, particularly east- and north-facing winter habitats, and also apparently in areas of high deer numbers such as Heceta Island. It is not likely that the 1988-89 winter caused enough mortality to change the upward trend in deer numbers here in Unit 2.

Aerial survey results vary between days are still be useful under favorable conditions. A 2.75 hour early morning survey was flown on July 25, 1989 along a portion of alpine/subalpine habitat in Unit 2 from Moira Sound to Ratz Harbor. There were 649 deer seen which, to the observers, indicated excellent deer numbers. Past surveys in the same general area in the early 1980's produced less than half the deer seen on this survey.

Regulations

GMU 2 hunters have enjoyed a multiple deer bag limit since at least 1930. In that year, hunters were allowed to take three bucks with three-inch horns [sic]. The season ran from late August or mid-September until early or mid-November. In the late 1940's, non-residents were allowed to take only one deer.

Beginning in 1942, the bag limit was restricted to two, and the bag limit bounced between two and three until two years before statehood, when it was expanded to four deer of either sex. The first antlerless deer season took place in 1955, and was a week long. Antlerless seasons gradually increased in length, and averaged about two months.

The longest season since the 1930's began on August 1, 1962 and ran through the middle of December. Hunters were allowed to take four deer, but antlerless deer could be taken only after the middle of September. This general season format, with some variations, continued through 1971.

In 1972, the effects of the hard winters of the late 60's and early 70's were becoming clear to Southeasterners, and the bag limit was reduced by one. When deer did not bounce back as quickly as expected, the antlerless season was eliminated in 1978 to speed the population recovery.

Beginning in 1978, the season began August 1 and lasted through the end of November. Hunters could bag three antlered deer. This season and bag limit configuration remained in effect for ten years while populations gradually began to rebuild. In 1988, the season was extended through the month of December, and the bag limit increased to four antlered deer. That season remains in effect today. Now that deer populations have largely recovered over most of the Prince of Wales archipelago, antlerless seasons similar to those of the '50's, '60's and '70's could safely be reinstituted. This may be the next logical step in the progression of seasons and bag limits on Prince of Wales.

Historical Harvest

The following table shows deer harvest in GMU 2 from 1980 through 1989.

Year	No. of Hunters	Harvest	Hunter Days
1980	620	615	4600
1981		No data collected	
1982	1150	1185	9190
1983	1560	1740	11290
1984	1910	1880	13070
1985	2025	3151	14182
1986	2233	2805	17505
1987	2481	3886	17709
1988	2124	2849	10668
1989	2132	2806	12315

OUTSIDE ISLANDS

Wildlife Analysis Areas 901, 902

Habitat Characteristics

Quality and Condition: Habitat quality is fair overall. Wolves are present on all islands. Suemez Island has lost habitat from logging and is scheduled to be nearly completely clearcut. Past logging has been concentrated in the areas of best habitat. Deer numbers, once high there, have declined recently. The reason is not clear. Baker, Noyes, and Lulu islands were recently given permanent LUD II status by Congress. Of those protected islands, Noyes and Baker have the best habitat. Still, about 56% of productive forest land is in low volume forest. Sixty-five percent of Lulu Island and 75% of San Fernando Is. is nonforest or nonproductive forest; essentially muskeg. Only about 8% of both Lulu and San Fernando is mid-volume forest and of much value as habitat. The forest on San Fernando is open to logging. The Maurelle Islands wilderness is in this management area. Habitat on the Maurelles is poor, however, and deer populations are thought to be low.

Snow Rating: This area benefits from its exposure to the Pacific coast. The moderating influence of the maritime temperature means snowfall is usually low.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions.

Wildlife Analysis Area	1988 Capability
901	2463
902	6523

Deer Population Status

Deer numbers and density on Suemez were high in the mid-1980's. According to pellet group surveys they are now quite low. The reason for the drop is unknown but may be a combination of habitat loss and predation. Deer populations on other islands have not been surveyed in recent years and are unknown.

Human Use

Hunter Residency: Since 1984, hunters from Craig, Klawock, Hydaburg, Waterfall resort, Edna Bay, Wrangell, Ketchikan, Petersburg, and Thorne Bay have reported using the area and use may increase if deer numbers on Prince of Wales Island decline.

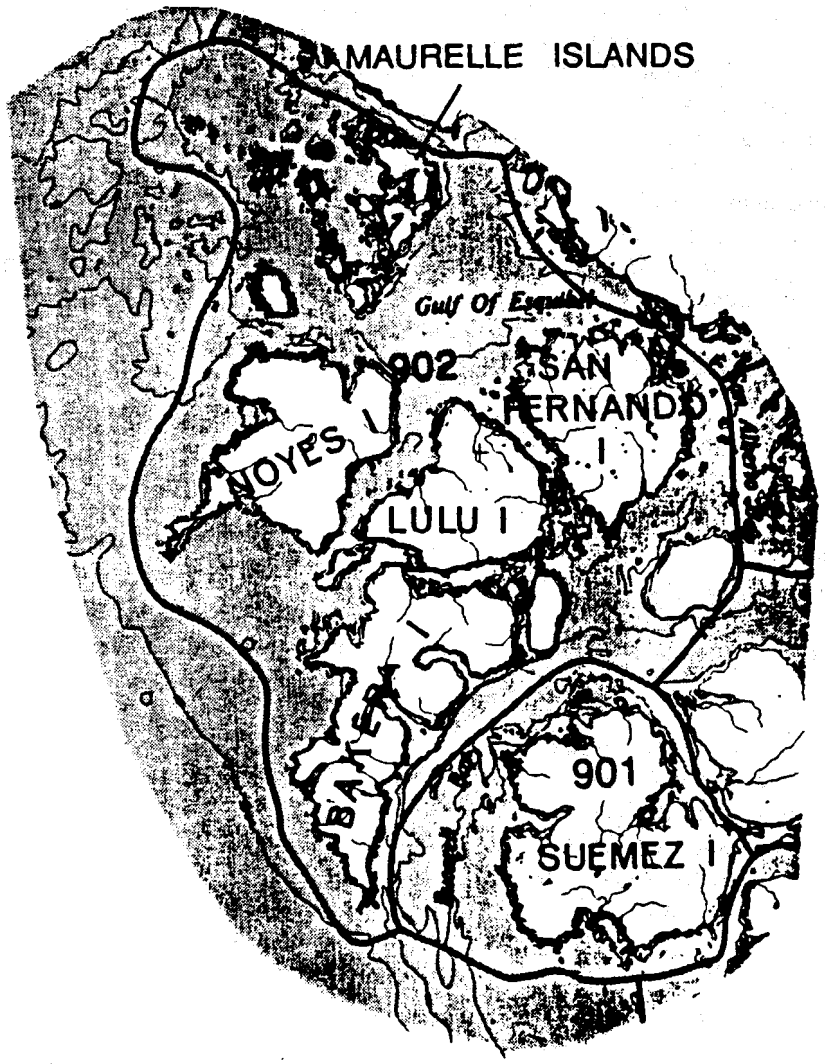
Access: Nearly all islands are difficult for boat access because of their exposure to the outside coast. Baker and Noyes, the islands most likely to have persistent huntable deer populations, are the most exposed islands and are least accessible to hunters. Noyes lacks good boat anchorages.

Demand: Hunting use is light probably because access is more difficult and deer densities are probably lower than on Prince of Wales Island. Nonhunting use is likely to increase on Noyes, Baker, and Lulu now that they are permanently protected from logging.

WAA	Hunter Demand	Minimum Deer Needed
901	72	720
902	23	230

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

OUTSIDE ISLANDS PLANNING AREA



Population Objectives

Population objectives allow for the reduction of long-term population numbers by a maximum of 25% from pristine conditions to reflect expected habitat losses from logging on Suemez, San Fernando, and San Juan Bautista islands. The objectives also reflect the need to maintain huntable deer populations in areas accessible to hunters from Prince of Wales Island. Because of the protected status of Noyes, Baker, and Lulu Islands in WAA 902, the population objective for those islands equals their habitat capability. In addition, the objectives for both WAA's reflect a desire to maintain widely distributed populations of sufficient density to provide reliable nonhunting encounters.

WAA	Population Objective
901	2215
902	6155

Harvest Statistics --- Outside Islands

Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
901							46	67	25
902							26	40	27
Total	60	80	55	110	103	63	72	80	45

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
901							101	168	44
902							34	84	47
Total	200	270	240	300	252	175	135	252	91

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
901							52	40	18
902							7	11	20
Total	40	50	40	90	96	11	59	51	38

HECETA ISLAND
Wildlife Analysis Area 1003

Habitat Characteristics

Quality and Condition: Extensive logging has occurred throughout the island with consequent loss of long-term habitat. Young clearcuts in early successional stages have temporarily added to the supply of browse which, because of the mild winters, has generally been available to deer. The original habitat quality was quite good. A large portion of the island was higher volume old growth with high habitat values. But logging has intensified on Heceta in recent years. Habitat loss is high and will continue. Habitat fragmentation is a growing problem and may result in lower long term populations than the current model predicts. The habitat capability model in use does not employ habitat patch size factors. Wolves are present and may exploit highly fragmented winter habitat, increasing their predation on deer concentrated there.

Snow Rating: As on other west coast islands, Heceta deer benefit from low average snowfalls.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions.

Wildlife Analysis Area	1988 Capability
1003	3181

Deer Population Status

From population surveys over the past decade, deer numbers and density have grown so that they are now quite high. As long as snowfall is low, the forage produced by new clearcuts will be available for deer.

Human Use

Hunter Residency: Since 1984, residents from Ketchikan, Craig, Klawock, Petersburg, Edna Bay, Wrangell, Thorne Bay, Port Alice logging camp, Hydaburg, Hollis, Tokeen, Tuxekan logging camp, and Sitka have reported hunting on Heceta.

Access: Access is by boat or float plane to sheltered harbors. Because of exposure to the ocean on the west, most access is via the eastern end of the island. Local loggers have access through an extensive logging road network.

Demand: Between 75 and 200 deer per year have been killed on Heceta since 1984. Most harvest seems to be by loggers from Port Alice camp on Heceta, and by Ketchikan residents. For Craig hunters, Heceta is the most popular place to hunt off Prince of Wales Island.

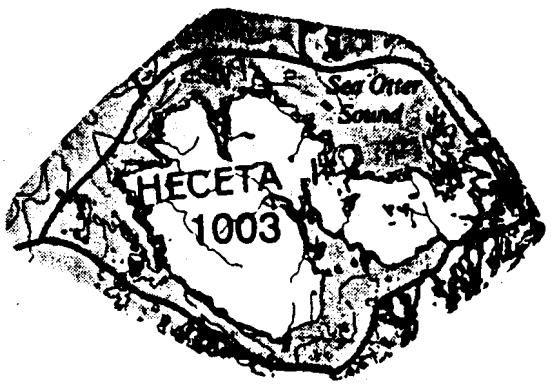
WAA	Hunter Demand	Minimum Deer Needed
1003	200	2000

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objective

The population objective allows for the reduction of long-term population numbers by a maximum of 25% from pristine conditions to accommodate habitat loss from logging. A greater reduction of habitat capability would be undesirable because hunters now using other areas may seek deer on Heceta if nearby populations

HECETA ISLAND PLANNING AREA



decline. In addition, the objective reflects a desire to maintain widely distributed populations of sufficient density to provide reliable nonhunting encounters.

WAA	Population Objective
1003	2863

Harvest Statistics — Heceta Island

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1003	30	90	70	70	115	105	91	124	144
Total	30	90	70	70	115	105	91	124	144

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1003	190	390	285	280	1074	415	311	282	576
Total	190	390	285	280	1,074	415	311	282	576

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1003	30	80	60	70	199	103	94	126	128
Total	30	80	60	70	199	103	94	126	128

SOUTHWESTERN COAST & ISLANDS

Wildlife Analysis Areas 1104, 1105, 1106, 1107, 1108

Habitat Characteristics

Quality and Condition: Habitat is of mixed value. Wolves are present on Prince of Wales and Sukkwan and probably occur on Long Island and Dall Island. Large blocks of WAA 1107 are private lands. Much of it has been logged or is scheduled for logging. A portion of that WAA still in National Forest surrounding Nutkwa Lagoon has been designated a permanent LUD II area by Congress. The remaining portions of WAA 1107 in National Forest will be subject to logging. Logging has already occurred at Soda Bay. WAA 1108 is a wilderness area. Habitat there is generally poor; less than half the WAA is productive forest. Most of Long Island (WAA 1106) and half of Dall Island (WAA 1105) are owned by Native corporations and are being extensively clearcut or are scheduled for logging. Based on current and past logging practices there, we expect that nearly all habitat on private land will eventually be eliminated.

Snow Rating: Most of the area is in a low average-snowfall zone. Some areas toward the interior of Prince of Wales receive moderate snowfall. The area around Nutkwa Lagoon in WAA 1107 is rated as a deep snowfall zone.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is for National Forest land only and is derived from analysis of deer habitat characteristics and average winter weather conditions. Habitat capability for non-National Forest land has not been calculated at this time.

Wildlife Analysis Area	1988 Capability
1104	0
1105	6355
1106	600
1107	7075
1108	3980

Deer Population Status

Deer populations are quite low on southern Prince of Wales, probably below habitat capability. Deer numbers on Dall and Long Islands are unknown. WAA 1104 is Forester Island. Deer are not known to exist on Forester.

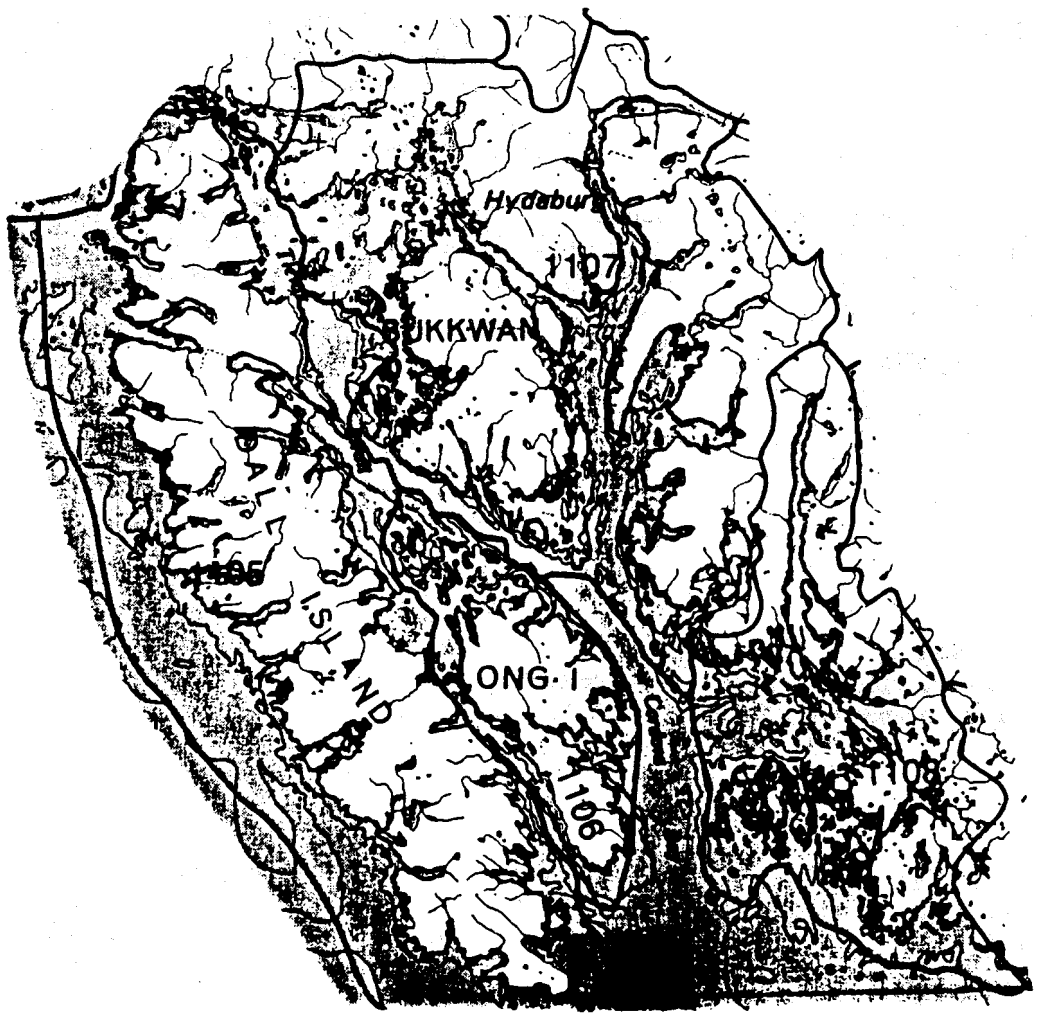
Human Use

Hunter Residency: Hydaburg is in this WAA and, as one would expect, WAA 1107 is the area most heavily used by Hydaburg hunters. Craig and Ketchikan residents also hunt the area regularly. Long Island is hunted primarily by logging camp residents there. Since 1984, residents from Juneau, Klawock, Thorne Bay, Haines, Petersburg, Hobart Bay logging camp, and Edna Bay have also reported hunting in this planning area occasionally.

Access: Part of WAA 1107 near Hydaburg on Prince of Wales Island is connected to the P.O.W. road system. Access to the rest of the area is primarily by boat. Because of its exposure to the ocean, the west coast of Dall Island is difficult to access. Loggers on Dall and Long Islands presumably use the extensive logging road systems there.

Demand: Hunter use of WAA 1107 in terms of number of hunters has been fairly consistent the past few years. Hunters from the Long Island logging camp have taken 35-50 deer a year there since logging began. Fewer than 6 deer a year have been killed on Dall Island, probably because of the island's remoteness and difficulty of access, and perhaps, because deer densities may be low. No deer have been reported killed in WAA 1108 in recent years, again probably because of remoteness and low deer density. Nonconsumptive use of WAA 1108 will probably grow because of its wilderness designation.

SW COAST & ISLANDS PLANNING AREA



WAA	Hunter Demand	Minimum Deer Needed
1105	0	0
1106	86	860
1107	86	860
1108	0	0

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

Population objectives reflect expected loss of most long term habitat capability on private lands and the need to maintain habitat on National Forest lands to provide well-distributed, huntable deer populations that are accessible to hunters. The objectives allow for the reduction of long-term population numbers in WAA's 1105 and 1107 on National Forest land by a maximum of 25% from pristine conditions to accommodate habitat loss from logging. A greater reduction of habitat capability would be undesirable because of the loss of nearby habitat on private land, and because hunters now using other areas may seek deer in these WAA's when neighboring populations decline. In addition, the objectives for all WAA's reflect a desire to maintain widely distributed populations of sufficient density to provide reliable nonhunting encounters. No deer occur on Forrester Island (WAA 1104). Habitat capabilities are so low on National Forest land in WAA 1106 (Long Island) that viability of the deer population could be in question if any habitat were to be lost; especially since all habitat on private land is expected to be eliminated. Because WAA 1108 is designated wilderness, its population objective has been set equal to its habitat capability.

WAA	Population Objective
1104	0
1105	4766
1106	600
1107	6013
1108	3980

Harvest Statistics — Southwestern Coast & Islands
Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1105							15	5	9
1106							24	33	33
1107							73	79	76
1108							6	7	9
Total	30	116	170	100	99	117	106	109	121

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1105							29	5	24
1106							66	79	336
1107							128	253	167
1108							12	7	21
Total	130	390	965	730	231	411	235	343	548

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1105							3	0	5
1106							45	37	34
1107							43	50	50
1108							6	0	6
Total	20	60	120	110	97	125	96	87	95

SOUTHEASTERN PRINCE OF WALES ISLAND

Wildlife Analysis Areas 1209, 1210, 1213, 1214

Habitat Characteristics

Quality and Condition: Habitat values are mixed. Wolves are present. South of Kendrick Bay most of WAA 1209 is nonproductive forest land. The best deer habitat in WAA 1209 appears to be north of Kendrick. In Moira Sound (WAA 1210), the higher value habitats appear to be near the entrance of the sound on both the north and south shores. Habitat is generally good in the other WAA's although all the higher value areas are subject to logging. Logging has already reduced habitat on private lands and National Forest lands in Cholmondeley Sound (WAA 1211 and 1213) and Skowl Arm and Polk Inlet (WAA 1214). We expect that nearly all habitat on private land in these WAA's will eventually be eliminated. The majority of WAA 1212 is nonproductive forest and low quality habitat.

Snow Rating: All of WAA 1209 and the Clarence Strait coasts of the other WAA's are in a low average-snowfall zone. The rest of the area is in the medium snowfall zone.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is for National Forest land only and is derived from analysis of deer habitat characteristics and average winter weather conditions. Habitat capability for non-National Forest land has not been calculated at this time.

Wildlife Analysis Area	1988 Capability
1209	4103
1210	2918
1211	2788
1212	1400
1213	1320
1214	1924

Deer Population Status

In general, deer numbers are currently low on all of southern Prince of Wales Island, probably below habitat capability. The reason populations have not recovered from the hard winters of the early 1970's is not clear. Predation may be a factor.

Human Use

Hunter Residency: There are currently logging camps at Dolomi, Cholmondeley Sound, Polk Inlet, and Skowl Arm in this area. Hunting is primarily by local logging camp residents and Ketchikan residents, many of whom may be loggers in the area. Since 1984, residents of Juneau, Metlakatla, Thorne Bay, Haines, Kasaan, Craig, Klawock, Hydaburg, Petersburg, and Wrangell have reported hunting on southeastern Prince of Wales Island.

Access: Most parts of this planning area are remote from communities. Boat access is difficult because of the exposed southern end of Clarence Strait. Bays offer good anchorages, however. The head of Polk Inlet in WAA 1214 is already connected to the island's road system. It is expected that all WAA's except 1209 will eventually be linked by road to the rest of Prince of Wales Island. The improved access is likely to attract more hunters, particularly if deer numbers decline in other areas of the island.

Demand: No deer kill has been reported in recent years in WAA 1209, probably because the area is remote from communities and because the deer density is low. Deer hunting and harvest elsewhere in the area correspond for the most part to logging activity. Probably because of low deer densities, deer kill is not high. Demand will probably increase in the future because of improved access.

SE PRINCE OF WALES ISLAND PLANNING AREA

WAA	Hunter Demand	Minimum Deer Needed
1209	0	0
1210	21	210
1211	117	1170
1212	31	310
1213	4	40
1214	126	1260

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

Population objectives reflect the expected loss of most long-term habitat capability on private lands. The objectives allow for the reduction of long-term population numbers in all WAA's on National Forest land in the planning area by a maximum of 25% from pristine conditions to accommodate habitat loss from logging. A greater reduction of habitat capability would be undesirable because hunters now using other portions of Prince of Wales Island may seek deer in these WAA's when neighboring populations decline. In addition, the objectives for all WAA's reflect a desire to maintain widely distributed populations of sufficient density to provide reliable nonhunting encounters.

WAA	Population Objective
1209	3077
1210	2188
1211	2370
1212	1050
1213	1122
1214	1730

Harvest Statistics — Southeastern Prince of Wales

Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987. Also, a change to Wildlife Analysis Area boundaries occurred between 1987 and 1988. Namely, WAA 1213 was enlarged at the expense of WAA 1212. For that reason, statistics for those WAA's from 1987 should not be considered equivalent to subsequent years for purposes of comparison. Totals for all WAA's in the planning area are comparable from year to year, however.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1209							5	7	0
1210							34	31	59
1211							81	62	77
1212							72	9	51
1213							20	33	15
1214							138	73	122
Total	170	100	160	200	200	238	286	189	309

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1209							18	7	0
1210							189	109	117
1211							487	278	760
1212							168	9	162
1213							53	52	20
1214							651	314	323
Total	790	680	475	1050	1894	1219	1565	769	1382

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1209							0	0	0
1210							35	13	20
1211							58	79	133
1212							31	20	46
1213							2	0	10
1214							90	93	80
Total	75	50	110	110	175	194	215	205	289

CENTRAL PRINCE OF WALES ISLAND

Wildlife Analysis Areas
1315, 1316, 1317, 1318, 1323, 1332

Habitat Characteristics

Quality and Condition: Overall, pristine habitat quality in this area was quite good. There are large blocks of private, lands, in WAA 1318, WAA 1332, and WAA 1315. Because large portions of the private lands and National Forest land have been logged, long-term habitat losses have been great and are expected to continue. Young clearcuts in early successional stages have temporarily added to the supply of browse which, because of the mild winters, has generally been available to deer. In the future, deer populations are expected to decline. We expect that nearly all habitat on private land in these WAA's will eventually be eliminated. Fragmentation of habitat is a growing problem. Wolves are present and may exploit highly fragmented winter habitat, increasing their predation on deer. The Karta Lake area (WAA 1316) remains unlogged and was recently designated a wilderness area by Congress. That area and the southern portion of Honker Divide (in WAA 1319) are the largest remaining uncut blocks with good habitat in the area. If this area is to meet the demand for large huntable deer populations in the future, large blocks of unfragmented, good quality habitat like Karta and Honker Divide will be essential.

Snow Rating: WAA's 1323, 1332, and most of 1315 and 1318 are in low average-snowfall zones. Part of WAA 1316 is in a high snowfall zone, and the rest of the area receives moderate snowfall.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is for National Forest land only and is derived from analysis of deer habitat characteristics and average winter weather conditions. Habitat capability for non-National Forest land has not been calculated at this time.

Wildlife Analysis Area	1988 Capability
1315	3374
1316	885
1317	1452
1318	2102
1319	3305
1323	2010
1332	2920

Deer Population Status

Based on consistently high harvest the past several years, deer populations throughout Central Prince of Wales appear to be at historically high levels, possibly higher than long-term habitat capability.

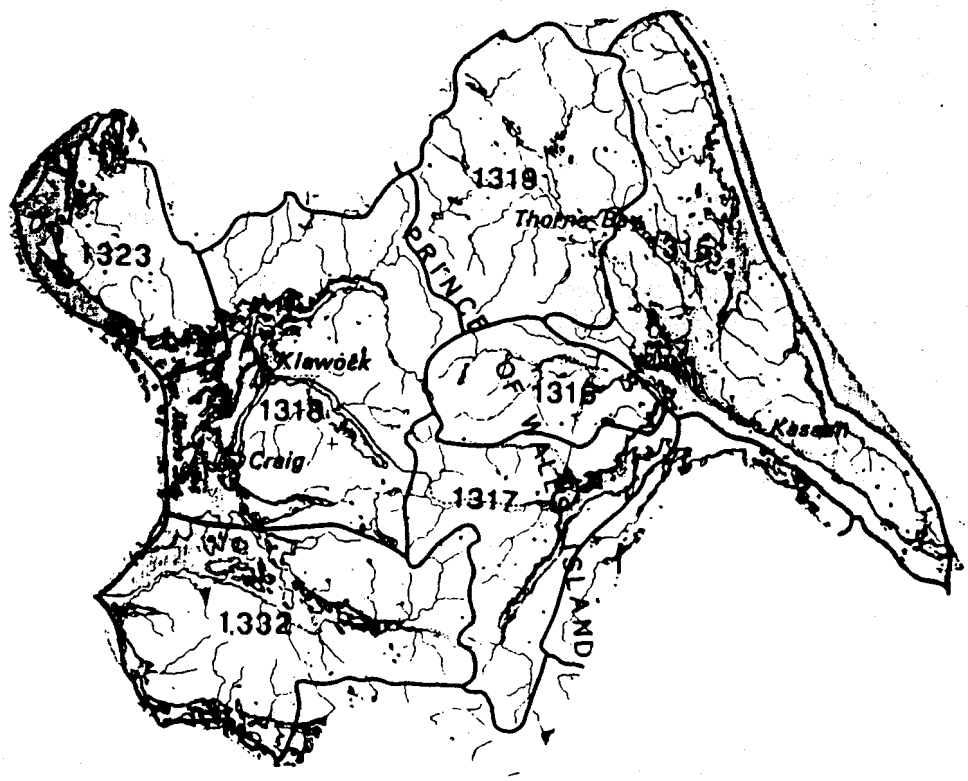
Human Use

Hunter Residency: The communities of Craig, Klawock, Thorne Bay, Kasaan, and Hollis as well as Waterfall resort are in the area. Residents of nearly every community in southeast Alaska have reported hunting the area at least once since 1984.

Access: Much of the area is accessible by road and it is connected by ferry to Ketchikan. Unroaded portions include WAA's 1316, 1323, and most of 1332.

Demand: The largest annual harvest in southern southeast Alaska has come from this planning area five of the past 6 years. Each community located here has annually taken more deer from this area than from any other deer planning area. More hunters hunt this area than any other area in southeast Alaska except Sitka. The proximity of so many communities and the accessibility the road system provides are the chief reasons for its popularity. In recent years, hunting demand in 5 out of 7 WAA's in this area has exceeded modeled long term habitat capability on National Forest land. Much of the kill in WAA 1318

CENTRAL PRINCE OF WALES ISLANDS PLANNING AREA



probably comes from private lands. As habitat on private land is eliminated, the deer needed to meet demand will increasingly have to come from National Forest land. The human population of this area is expected to increase. As more-severe winters reduce deer populations to levels near long-term habitat capability, the ability of this area to meet hunters' demands will decrease. Bag limits and/or seasons may have to be reduced. Restrictions may be placed on nonlocal hunters. Local hunters may be forced to seek deer in other locations farther afield. Because of habitat reductions elsewhere on Prince of Wales and low deer densities in the southern parts of the island, hunters' options may be limited in the future. Continued loss of habitat in this area will exacerabate the problems. Nonhunting use of deer is expected to increase in the Karta and Thorne River areas especially as recreational uses of them increase.

WAA	Hunter Demand	Minimum Deer Needed
1315	357	3570
1316	128	1280
1317	181	1810
1318	643	6430
1319	429	4290
1323	141	1410
1332	42	420

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

Population objectives reflect the high hunter demand for deer in this area overall and the expected loss of most long term habitat capability on private lands. Population objectives for WAA 1315, 1316, 1317, 1318, and 1319 reflect the current high hunter demand relative to habitat capability and the need to maintain habitat capability at current levels to meet current and future demand in areas accessible to hunters. The objectives allow for the reduction of long-term population numbers in WAA 1323 and 1332 by a maximum of 25% from pristine conditions to accommodate habitat loss from logging. A greater reduction of habitat capability would be undesirable because hunters now using neighboring WAA's may seek deer in these areas when neighboring populations decline. In addition, the objectives for all WAA's reflect a desire to maintain widely distributed populations of sufficient density to provide reliable nonhunting encounters.

WAA	Population Objective
1315	3374
1316	885
1317	1452
1318	2102
1319	3305
1323	1508
1332	2482

Harvest Statistics — Central Prince of Wales

Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987. Also, changes to Wildlife Analysis Area boundaries occurred between 1987 and 1988. Namely, WAA's 1323 and 1332 were created from portions of 1318. For that reason, statistics for WAA 1318 from 1987 should not be considered equivalent to subsequent years for purposes of comparison. Totals for all WAA's in the planning area are comparable from year to year, however.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1315							248	203	176
1316							60	101	84
1317							183	53	107
1318							447	404	481
1332								47	39
1323								86	111
1319							385	300	341
Total	180	370	520	700	807	978	1032	922	1021

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1315							993	814	658
1316							412	251	185
1317							458	69	237
1318							1919	1311	1638
1332								111	77
1323								327	222
1319							1810	671	993
Total	1220	2760	3455	3970	3204	5283	5592	3554	4010

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1315							233	130	92
1316							140	77	66
1317							123	28	75
1318							493	347	398
1332								21	23
1323								75	93
1319							285	243	197
Total	160	355	500	550	821	927	1276	921	944

NORTHCENTRAL PRINCE OF WALES ISLAND

Wildlife Analysis Areas 1420, 1421, 1422

Habitat Characteristics

Quality and Condition: Pristine habitat quality was generally excellent but large areas of clearcuts such as at Staney Creek (WAA 1422) and Luck Lake (WAA 1420) have reduced and fragmented habitat considerably. Wolves are present and may exploit highly fragmented winter habitat, increasing their predation on deer. Young clearcuts in early successional stages have temporarily added to the supply of browse which, because of the mild winters, has generally been available to deer. In the future, deer populations are expected to decline. The Sarkar Lake area in the extreme north end of WAA 1422 has a LUD II designation but most of that area is nonproductive forest and other low value habitat. The northern portion of Honker Divide (WAA 1421) is the only large uncut block of good habitat remaining in northcentral Prince of Wales and should be retained if demand for large, huntable deer populations in this area is to be met in the future.

Snow Rating: The coastal portions of WAA 1422 are in a low average-snowfall zone, and one small portion of that WAA is in a deep snow zone. The rest of the area receives moderate snowfall.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions.

Wildlife Analysis Area	1988 Capability
1420	1518
1421	3622
1422	5200

Deer Population Status

Based on consistently high harvest the past several years, deer populations throughout Northcentral Prince of Wales appear to be at historically high levels, possibly higher than long-term habitat capability.

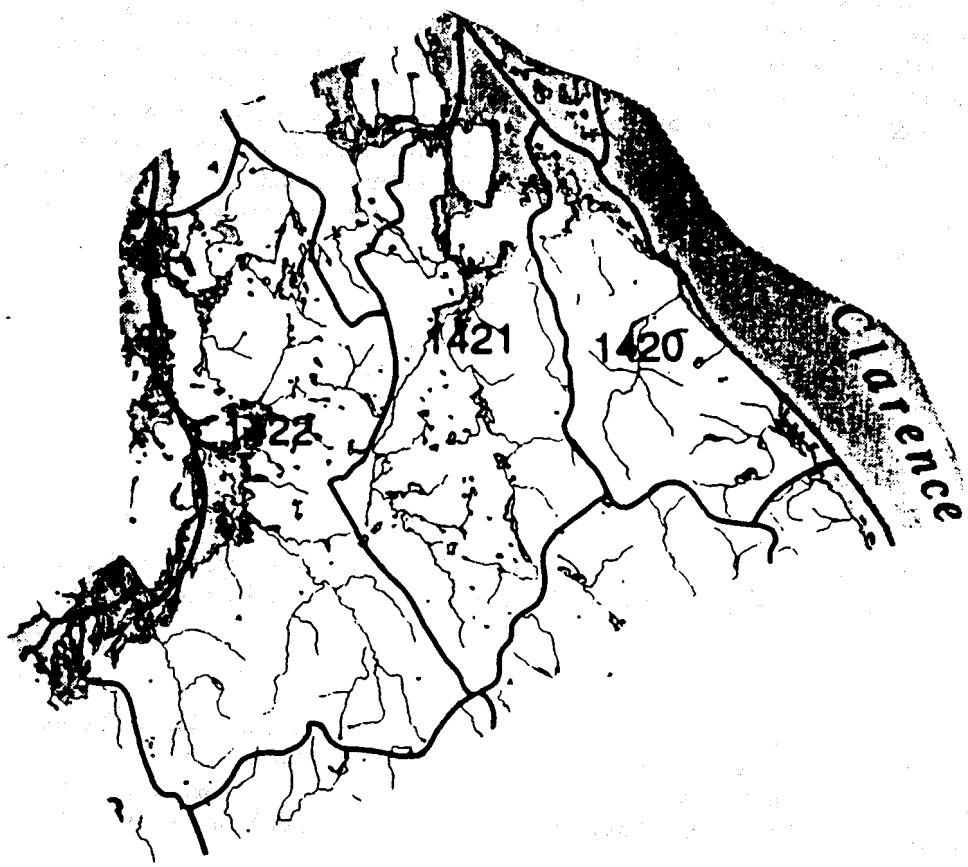
Human Use

Hunter Residency: The logging camps of Coffman Cove, Naukati, and Winter Harbor are in this area. Hunters from nearly every community in southern southeast Alaska hunt deer here.

Access: Like Central Prince of Wales, this area is extensively roaded and logged. An extensive network of logging roads makes much of this area accessible to the rest of Prince of Wales Island and users of the state ferry system.

Demand: In terms of numbers of hunters, this has been consistently among the top five or six most heavily hunted areas in southeast Alaska during the past six years. The extensive access provided by the road system, the large number of loggers working in the area, and relatively high deer densities are the chief reasons for its popularity. Current deer populations are probably near historic highs. In recent years, hunting demand in WAA's 1420 and 1421 has exceeded modeled long term habitat capability. The deer kill has decreased in those two WAA's since 1987. Hunter demand in WAA 1422 is below long-term habitat capability. As more-severe winters reduce deer populations to levels near long term habitat capability, the ability of this area to meet hunters' demands will decrease. Bag limits and/or seasons may have to be reduced. Restrictions may be placed on nonlocal hunters. Local hunters may be forced to seek deer in other locations farther afield. Because of habitat reductions elsewhere on Prince of Wales and low deer densities in the southern parts of the island, hunters' options may be limited in the future. Continued loss of habitat in this area will exacerabate the problems.

N. CENTRAL PRINCE OF WALES ISLAND PLANNING AREA



WAA	Hunter Demand	Minimum Deer Needed
1420	335	3350
1421	811	8110
1422	460	4600

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

Population objectives for WAA 1420, and 1421 reflect the current high hunter demand relative to habitat capability and the need to maintain habitat capability at current levels to meet current and future demand in areas accessible to hunters. The objective for WAA 1422 allows for the reduction of long-term population numbers by a maximum of 25% from pristine conditions to accommodate habitat loss from logging. A greater reduction of habitat capability would be undesirable because hunters now using neighboring WAA's may seek deer in this area when neighboring populations decline. In addition, the objectives for all WAA's reflect a desire to maintain widely distributed populations of sufficient density to provide reliable nonhunting encounters.

WAA	Population Objective
1420	1518
1421	3622
1422	4680

Harvest Statistics --- Northcentral Prince of Wales

Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987. Also, several changes to Wildlife Analysis Area boundaries occurred between 1987 and 1988. Namely, the portion of WAA 1422 that was not on Prince of Wales Island was added to the newly created WAA 1531. For that reason, statistics from 1987 should not be considered equivalent to subsequent years for purposes of comparison.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1420							216	178	131
1421							546	310	271
1422							629	397	492
Total	140	280	390	520	746	715	1000	779	753

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1420							928	701	460
1421							2323	955	909
1422							2507	1444	1500
Total	1120	2540	3170	3650	4723	4458	5757	3100	2869

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1420							219	186	114
1421							537	329	224
1422							494	284	377
Total	130	270	420	430	1029	547	1250	799	715

NORTHERN PRINCE OF WALES ISLAND

Wildlife Analysis Areas 1527, 1528, 1529, 1530

Habitat Characteristics

Quality and Condition: Pristine habitat capability in this area was quite good. However, habitat has been lost to extensive logging, and remaining habitat is greatly fragmented. Wolves are present and may exploit highly fragmented winter habitat, increasing their predation on deer. Two areas remain largely uncut--an area around Salmon Bay Lake in WAA 1528 and the west and south slopes of Mt. Calder in WAAs 1529 and 1527. Both of these areas were given permanent LUD II status by Congress, protecting them from logging. Elsewhere, long-term deer habitat is being lost rapidly and will continue to be eliminated.

Snow Rating: The west coast of WAA 1529 is in a low average-snowfall zone. Salmon Bay Lake and El Capitan Peak in WAA's 1528 and 1529 are in deep snow zones. The rest of the area receives moderate snowfall.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions.

Wildlife Analysis Area	1988 Capability
1527	1900
1528	435
1529	2830
1530	2178

Deer Population Status

Based on consistently high harvest the past several years, deer populations throughout Northern Prince of Wales appear to be at historically high levels, possibly higher than long-term habitat capability.

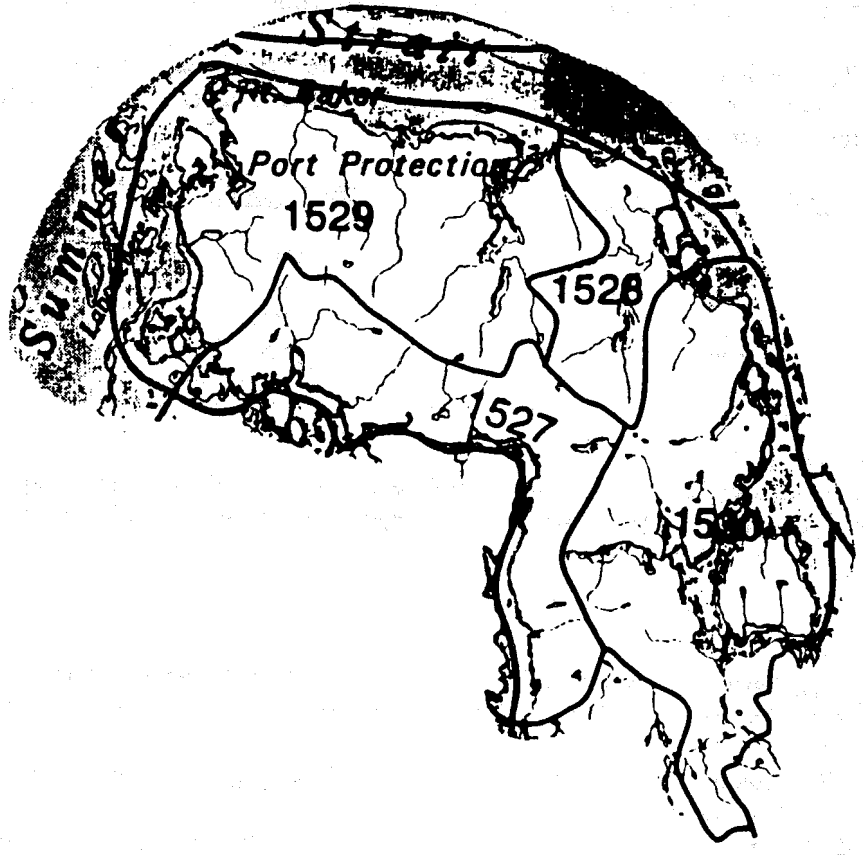
Human Use

Hunter Residency: The communities of Whale Pass, Port Protection, Point Baker, and Labouchere Bay logging camp are located here. Hunters from nearly every community in southern southeast Alaska hunt here.

Access: Portions of this area are extensively roaded and logged. Roads are connected to the rest of Prince of Wales Island and tie in with the state ferry system.

Demand: In terms of numbers of hunters, this area has been among the top ten most heavily hunted areas in southeast Alaska since 1984. The large number of loggers in the area, number of communities, relatively high deer densities, and extensive roaded access are the main reasons for its high use. In recent years, hunting demand in WAA's 1528, 1529, and 1530 has exceeded modeled long term habitat capability. As more-severe winters reduce deer populations to levels near long term habitat capability, the ability of this area to meet hunters' demands will decrease. Bag limits and/or seasons may have to be reduced. Restrictions may be placed on nonlocal hunters. Local hunters may be forced to seek deer in other locations farther afield. Because of habitat reductions elsewhere on Prince of Wales and low deer densities in the southern parts of the island, hunters' options may be limited in the future. Continued loss of habitat in this area will exacerabate the problems.

NORTHERN PRINCE OF WALES ISLAND PLANNING AREA



WAA	Hunter Demand	Minimum Deer Needed
1527	65	650
1528	117	1170
1529	429	4290
1530	307	3070

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

Population objectives for WAA 1528, 1529, and 1530 reflect the current high hunter demand relative to habitat capability and the need to maintain habitat to meet current and future demand in areas accessible to hunters. The objectives allow for the reduction of long-term population numbers in WAA 1527 by a maximum of 25% from pristine conditions to accommodate habitat loss from logging. A greater reduction of habitat capability would be undesirable because hunters now using neighboring WAA's may seek deer in WAA 1527 when neighboring populations decline.

WAA	Population Objective
1527	1615
1528	435
1529	2830
1530	2178

Harvest Statistics — Northern Prince of Wales Island

Prior to 1987, harvest statistics of Northern Prince of Wales Island were combined with those of Kosciusko Island-Sea Otter Sound area. It is not possible to accurately separate totals from those areas to put into individual tables for each area. However, for the following tables, estimates of harvest statistics for Northern Prince of Wales Island have been made. The method used was to assume that, for all statistics from the combined areas, the proportion attributable to Northern Prince of Wales Island in 1987-89 was also attributable to it in the years 1980-1986. In the following tables, those numbers marked with an * indicate estimates computed by this method.

Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987. Also, several changes to Wildlife Analysis Area boundaries occurred between 1987 and 1988. Namely, WAA 1527 was split to create 1530, and drainages in 1527 on Kosciusko Island were put into WAA 1526. For that reason, statistics from 1987 should not be considered equivalent to subsequent years for purposes of comparison.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1527							478	53	27
1530								199	217
1528							89	65	43
1529							234	155	138
Total	98*	204*	360*	283*	462*	560*	689[1]	401[1]	374[1]

[1]Note: Totals for number of hunters for 1987-1989 are less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year. The totals given in this table are estimates based on percentage of hunters that hunted in more than one WAA in the Northern Prince of Wales, Kosciusko-Sea Otter Sound combined area.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1527							2166	175	50
1530								848	1254
1528							322	215	104
1529							1142	423	816
Total	770*	1750*	2187*	2503*	2270*	4491*	3630	1661	2224

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1527							416	43	12
1530								202	197
1528							72	63	51
1529							294	146	157
Total	123*	246*	377*	400*	564*	691*	782	454	417

KOSCIUSKO ISLAND - SEA OTTER SOUND

Wildlife Analysis Areas 1524, 1525, 1526, 1531

Habitat Characteristics

Quality and Condition: Pristine habitat quality in most of this area was quite good. Substantial areas of WAA 1525 on Kosciusko Island, Tuxekan and the large islands in Sea Otter Sound (WAA 1531) have been logged, however, with corresponding loss of habitat. Remaining habitat in these areas is greatly fragmented and deer populations and densities are expected to decline in the future. Wolves are present and may exploit highly fragmented winter habitat, increasing their predation on deer. Approximately half of the northern part of Kosciusko Island (WAA 1526) was given permanent LUD II status by Congress, thereby protecting it from logging. Habitat in that WAA is generally good. Sea Otter Sound was the site of ADF&G research on deer utilization of various sized islands of old-growth forest during 1989-90. Warren Island (WAA 1524) is a designated wilderness area. Habitat on Warren is thought to be good.

Snow Rating: Most of the area is in a low average-snowfall zone. Northern Kosciusko Island receives moderate snowfall.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions.

Wildlife Analysis Area	1988 Capability
1524	736
1525	2992
1526	2890
1531	2770

Deer Population Status

Based on consistently high harvest the past several years, deer populations throughout the Kosciusko - Sea Otter Sound area appear to be at historically high levels, possibly higher than long-term habitat capability.

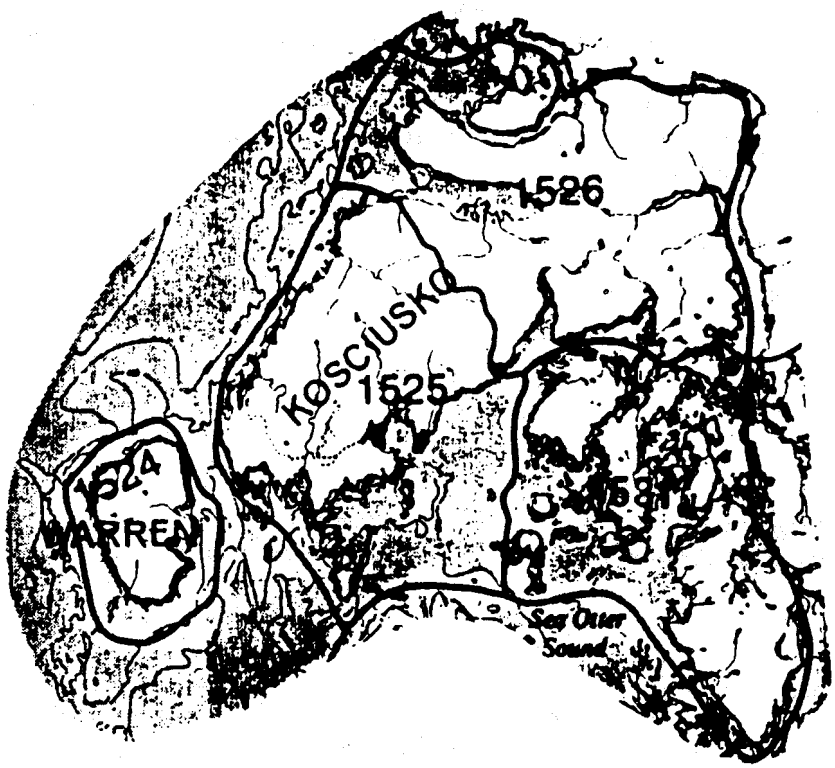
Human Use

Hunter Residency: Edna Bay, Tokeen, a logging camp on Tuxekan Island, and scattered mariculture sites and other small settlements in Sea Otter Sound are in this area. Residents from Edna Bay, Tokeen, Point Baker, Ketchikan, Petersburg, Wrangell, Naukati logging camp, Craig, and Cape Pole logging camp have reported hunting here.

Access: Access is by boat. There are good anchorages throughout the area. Southern Kosciusko Island (WAA 1525) and many islands in Sea Otter Sound have extensive logging road networks that allow access to interiors of the islands and vehicle access for logging camp residents. Warren Island (WAA 1524) and the south coast of Kosciusko are exposed to open ocean, making access difficult.

Demand: Use in all WAA's in this area may increase by hunters now using Prince of Wales Island if deer populations decline on that island. Nonhunting use is likely to increase in the portion of WAA 1526 given permanent protection from logging by Congress. Although deer are present on Warren, the island is exposed, remote, lacks safe anchorages for boat access and is not used by hunters. Despite its remoteness and difficulties of access, Warren Island could experience an increase in nonhunter use by virture of its designation as wilderness.

KOSCIUSKO ISLAND - SEA OTTER SOUND PLANNING AREA



WAA	Hunter Demand	Minimum Deer Needed
1524	6	60
1525	86	860
1526	160	1600
1531	63	630

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

Population objectives allow for the reduction of long-term population numbers in WAA's 1525, 1526, and 1531 by a maximum of 25% from pristine conditions to accommodate habitat loss from logging. Because WAA 1524 is designated wilderness, its population objective has been set equal to its habitat capability. In addition, the objectives for all WAA's reflect a desire to maintain widely distributed populations of sufficient density to provide reliable nonhunting encounters.

WAA	Population Objective
1524	736
1525	2693
1526	2457
1531	2493

Harvest Statistics — Kosciusko Island-Sea Otter Sound

Prior to 1987, harvest statistics of the Kosciusko Island-Sea Otter Sound area were combined with those of Northern Prince of Wales Island. It is not possible to accurately separate totals from those areas to put into individual tables for each area. However, for the following tables, estimates of harvest statistics for Kosciusko-Sea Otter Sound have been made. The method used was to assume that, for all statistics from the combined areas, the proportion attributable to the Kosciusko-Sea Otter Sound area in 1987-89 was also attributable to it in the years 1980-1986. In the following tables, those numbers marked with an * indicate estimates computed by this method.

Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987. Also, several changes to Wildlife Analysis Area boundaries occurred between 1987 and 1988. Namely, WAA 1531 was created from portions of 1526 and 1422, and WAA 1526 gained areas on Kosciusko Island formerly in WAA 1527. For that reason, statistics from 1987 should not be considered equivalent to subsequent years for purposes of comparison.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1524							3	11	0
1525							41	38	28
1526							78	106	79
1531								30	54
Total	27*	56*	77*	103*	126*	153*	105[1]	157[1]	142[1]

[1]Note: Totals for number of hunters for 1987-1989 are less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year. The totals given in this table are estimates based on percentage of hunters that hunted in more than one WAA in the Northern Prince of Wales, Kosciusko-Sea Otter Sound combined area.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1524							3	21	0
1525							201	237	84
1526							280	332	372
1531								119	156
Total	181*	410*	513*	587*	533*	1053*	484	709	612

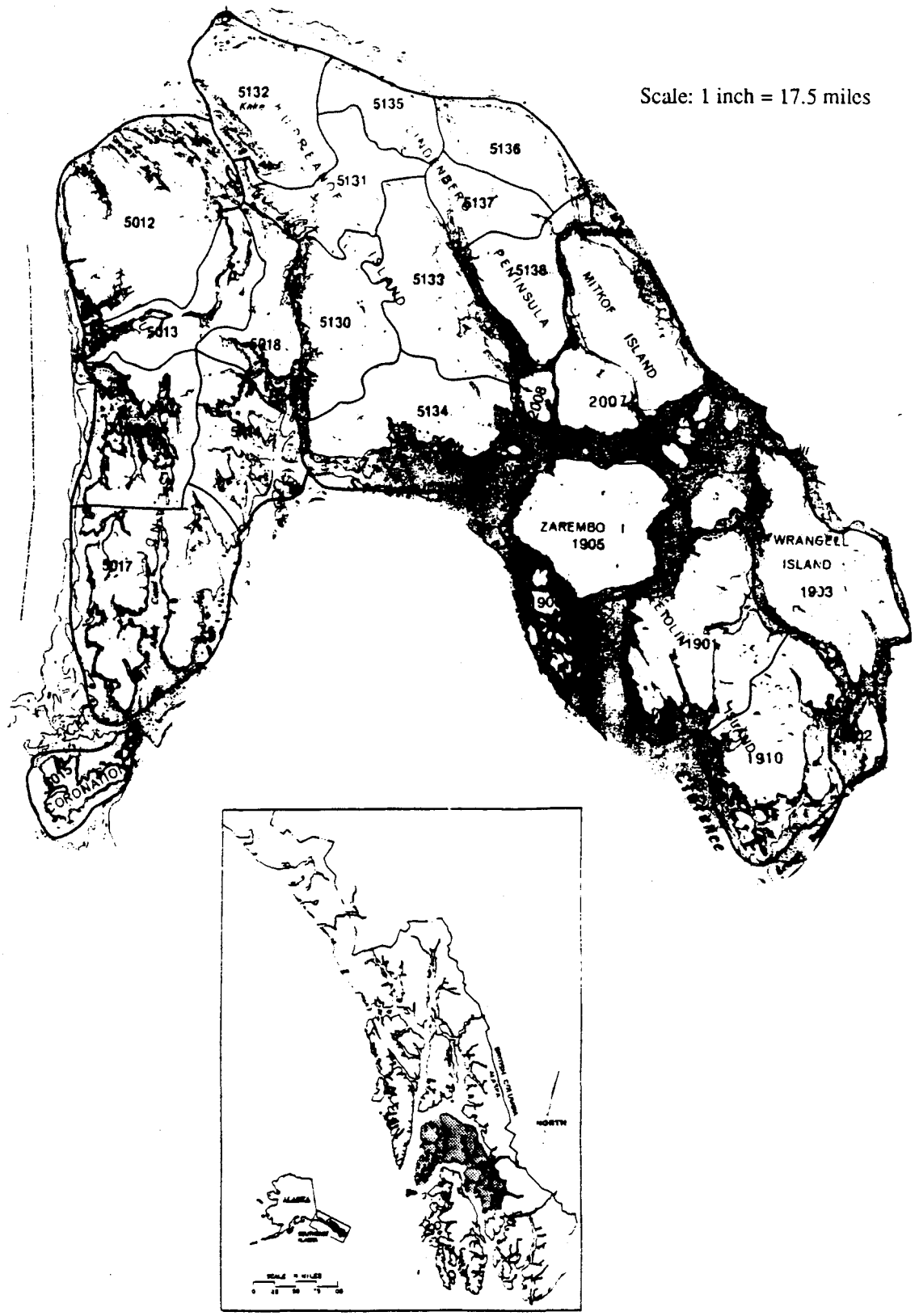
Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1524							3	5	0
1525							46	48	24
1526							66	114	111
1531								40	44
Total	37*	74*	113*	120*	169*	207*	115	207	179

GAME MANAGEMENT UNIT 3

CENTRAL ARCHIPELAGO

GAME MANAGEMENT UNIT 3



GAME MANAGEMENT UNIT 3
INTRODUCTION

Population Status and Trend

Sitka black-tailed deer are found on most of the islands in Unit 3. Deer populations in Unit 3 have historically been very unstable with both high and low population extremes. The declines can be attributed to many factors; the most prominent being severe winter weather. Wolf and bear predation, excessive or illegal hunting, and reduced carrying capacity caused by clearcut logging all contribute to reducing deer populations.

The most recent population decline occurred in the late 1960's and early 1970's which led to restrictive regulations and bag limits in 1973. Unit 3, was closed in 1975, and the area north of Sumner Strait is still closed. A one antlered deer limit was reinstated in 1980 south of Sumner Strait. In 1988, 89 and 90 the limit there has been two antlered deer.

After several years of apparent increase the populations in Unit 3 seem to have stabilized, and in some cases are increasing. Mitkof Island still appears to have a substantially higher population than Kuiu or Kupreanof but the moderately severe winter of 1988-89 caused some winter mortality.

Regulations

From 1925 to 1954 deer hunting in southeast Alaska was limited to bucks only. Legal bucks were defined as having three-inch long antlers (or "horns" as they were called). The seasons began in August or September and continued to mid or late November with bag limits of two to three bucks. Doe (or antlerless deer) hunting began in 1955.

Beginning in 1956, Southeast was divided into Game Management Units 1 through 5, and deer and other wildlife species were managed by these geographical areas. In 1956, the allowable deer harvest in GMU 3 was three bucks or two bucks and one doe. The deer hunting season was from August 20 - November 26 with a two week doe seaon.

From 1958 to 1969, there was a four deer bag limit and a hunting season that lasted from August through November. In 1962 the season lasted from August through December. Hunters on Mitkof Island were limited to two bucks in 1970, while the rest of GMU 3 had a four deer bag limit including a one month doe season.

In 1971, Mitkof, Wrangell, Etolin and Woronkofski islands had a two buck bag limit while three deer were allowed in the remainder of GMU 3. The doe season was once again one month long. The bag limit was two bucks in 1972 and one buck in 1973 and 1974.

In 1975, the deer season was closed in GMU 3 and remained closed until 1980 when only the portion of GMU 3 south of Sumner Strait and Eastern Passage was open to the harvest of one buck. The rest of Unit 3 was closed. These regulations remained in place until the 1983-84 season when Conclusion Island was also opened to the harvest of one buck. The portion of GMU 3 south of Sumner Strait, and Conclusion Island, remained open in 1985, 86 and 87 with a one buck limit.

Conclusion Island, along with Level and Channel islands were closed to hunting in 1988 and the portion of GMU 3 south of Sumner Strait remained open with a two buck limit. This part of GMU 3 was still open in 1990 with the same bag limit.

Historical Harvest

The following table shows deer harvest for GMU 3 from 1980 through 1989.

Year	No. of Hunters	Harvest	Hunter Days
1980	230	100	840
1981	No data was collected		
1982	290	75	1070
1983	260	80	1210
1984	400	130	1440
1985	428	173	1138
1986	382	201	1196
1987	397	136	1325
1988	342	240	1418
1989	355	237	1361

SUMNER/ERNEST ISLANDS

Wildlife Analysis Areas
1901, 1902, 1903, 1904, 1905, 1906, 1910

Habitat Characteristics

Quality and Condition: Habitat values in this area are mixed. Many areas of Wrangell Island (WAA 1903), Zarembo Island (WAA 1905), and portions of the Kashevaroff Islands (WAA 1906) have been extensively logged with corresponding losses of habitat. Logging has also occurred on parts of northern Etolin Island. Wolves are present on Woronkofski, Zarembo, Etolin, and Wrangell Islands. Black bears occur on Woronkofski, Etolin, and Wrangell. Bears are rare to extremely rare on Zarembo. The extent of predation on deer is unknown. Fragmentation of habitat on Wrangell is a serious problem in some areas and may result in lower long-term populations than model predictions. Computer limitations do not allow the habitat model to take into account patch size factors when estimating capability. Wolves may exploit highly fragmented winter habitat, increasing their predation on deer. Most of WAA 1910, south Etolin Island, has been designated wilderness by Congress. However, habitat there is mostly poor; less than half the area is productive forest. Despite its name, Deer Island is not thought to have many deer at present. Woronkofski (WAA 1904) has been partially logged. The habitat still supports a good deer population. Portions of Wrangell Island, particularly in the north, are non-National Forest, state, municipal, or private lands.

Snow Rating: The Kashevaroff Islands (WAA 1906) and the southeast coasts of WAA's 1901 and 1910 on Etolin Island are in low average-snowfall zones. The rest of this area receives moderate average-snowfalls.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is for National Forest land only and is derived from analysis of deer habitat characteristics and average winter weather conditions. Habitat capability for non-National Forest land has not been calculated at this time.

Wildlife Analysis Area	1988 Capability
1901	3923
1902	292
1903	3178
1904	793
1905	3237
1906	839
1910	3754

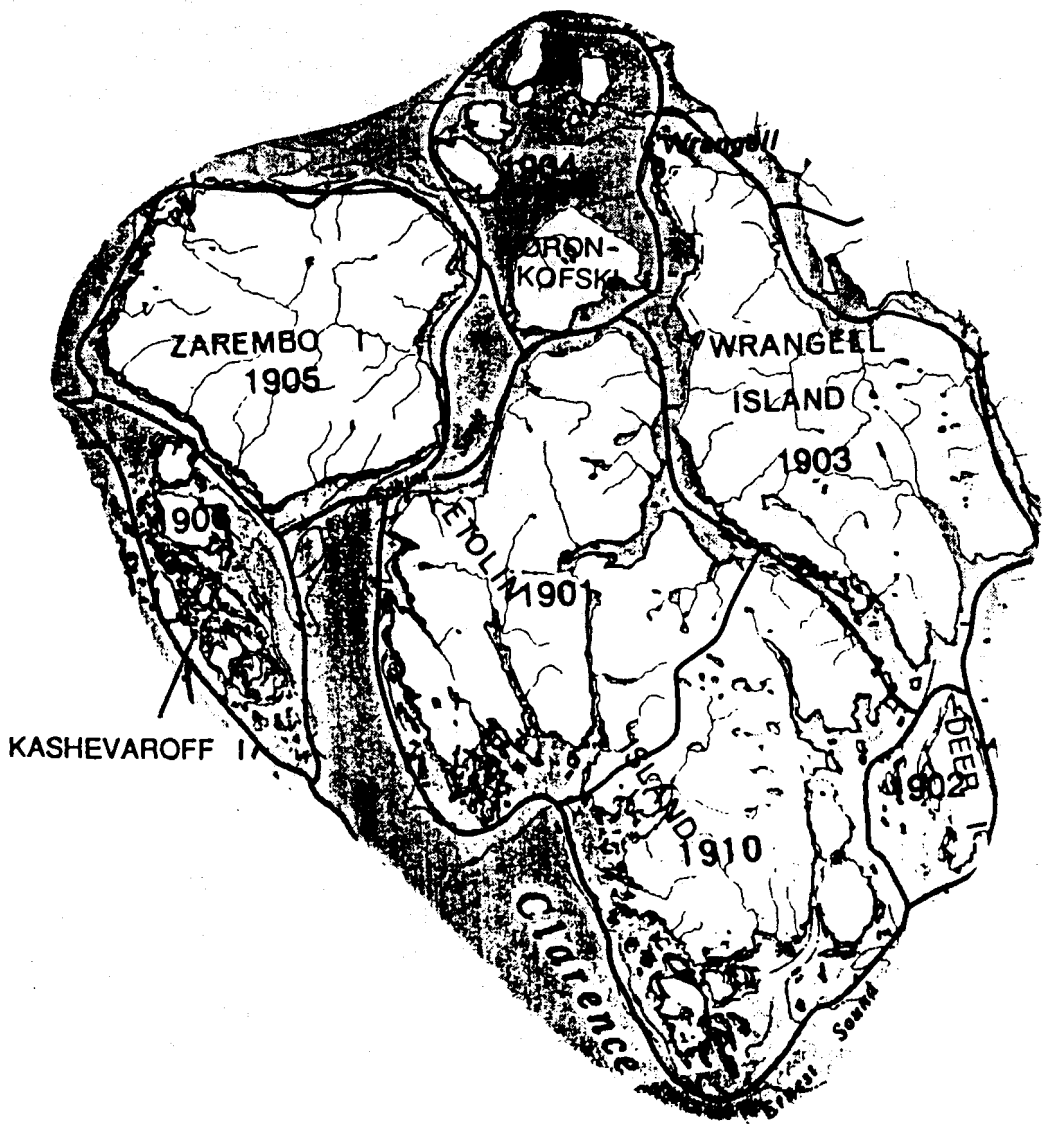
Deer Population Status

In general (except for Woronkofski and the Kashevaroff Islands where current deer numbers may exceed long-term capability), deer populations seem to be well below modeled habitat capability throughout the area. Pellet group surveys indicate the deer population and density on southern Etolin Island (WAA 1910) is low and appears to be stable. Northern Etolin is also thought to have a low deer density and population. Populations on Deer Island (WAA 1902) and Wrangell Island (WAA 1903) are quite low. Zarembo Island (WAA 1905) is thought to have a low to moderate population. In WAA 1904, Woronkofski has a high deer population which has been increasing since 1985. Other islands in that WAA have very low populations. Hunters report deer in the Kashevaroff Islands (WAA 1906) are harder to find. Deer numbers there, once thought to be moderate to high, may now be declining as older clearcuts mature into second growth forest.

Human Use

Hunter Residency: Communities whose residents have hunted in the Sumner/Ernest Islands area since 1984 include: Wrangell, Coffman Cove, Petersburg, Kake, Ketchikan, Sitka, Tenakee Springs, Shoal Cove logging camp, Juneau, and Haines.

SUMNER/ERNEST ISLANDS PLANNING AREA



Access: Access to all islands in the Sumner/Ernest group by boat is good. Waters are generally protected and most islands have several good anchorages. Road access is available to much of Wrangell Island. Zarembo has an extensive logging road network but lack of ferry access excludes highway vehicles except those associated with logging camps.

Demand: The islands located between Sumner Strait and Ernest Sound are the only areas in Game Management Unit 3 which are open to deer hunting. In recent years, 50% or more of the harvest in this area has come from Woronkofski Is. (WAA 1904). The deer population is currently quite high on Woronkofski, and that and its proximity to the community of Wrangell make it a popular hunting ground. However, recent demand for deer on Woronkofski has exceeded the long term habitat capability there. Hunters will probably have to find additional places to hunt in the future to satisfy demand. Although large areas of Wrangell Island (WAA 1903) are accessible by road to Wrangell residents, a currently low density deer population makes it less attractive to hunters. The Kashevaroff Islands get regular use by Wrangell hunters and occasionally by hunters from Coffman Cove and other communities. The South Etolin Wilderness has received little hunter use, but with wilderness designation, an increase in nonconsumptive use may occur. Probably because of low deer populations, hunter use and harvest are sporadic on Deer Island.

WAA	Hunter Demand	Minimum Deer Needed
1901	24	240
1902	10	100
1903	68	680
1904	121	1210
1905	12	120
1906	68	680
1910	23	230

Note: Hunting demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Deer needed is the number of deer needed to support that level of demand indefinitely. It is ten times demand based on a sustainable harvest rate of 10% a year. Calculation of demand is based on harvest. For WAA's 1901 and 1902, no harvest was reported in 1987 or 1988 within current WAA boundaries so 1989 harvest was used to compute demand. WAA 1910 was not created until 1988, so that year's harvest was used to compute demand.

Population Objectives

Population objectives allow for the reduction of average long term population numbers in WAA's 1901, 1903, and 1905 by a maximum of 25% from pristine conditions to accommodate habitat loss from logging. The objective for WAA 1906 accepts some reduction in habitat capability to accommodate logging, but has been set at a figure which retains more than 75% of pristine habitat capability to provide enough deer to meet hunter demand. Habitat capability is so low in WAA 1902 that viability of the deer population could be in question if more habitat were to be lost. The population objective for WAA 1910 has been set slightly below the current habitat capability to accommodate some habitat loss from logging in the nonwilderness portion of the WAA. Because it is the primary hunting area for the community of Wrangell and demand is very high relative to habitat capability, the objective for WAA 1904 calls for a deer population at the highest density current habitat allows. Loss of more habitat, particularly on Woronkofski Island would be undesireable and make it even harder to provide for demand.

WAA	Population Objective
1901	3335
1902	292
1903	2860
1904	793
1905	2913
1906	680
1910	3500

Harvest Statistics — Sumner/Ernest Islands

Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987. Also, a Wildlife Analysis Area boundary change was made between 1987 and 1988. Namely, WAA 1901 (Etolin Island) was split roughly in half. The southern part of the island was made WAA 1910. For that reason, statistics for WAA 1901 from 1987 are not comparable to those of 1988 and 1989. The totals for all WAA's in the planning area are comparable from year to year, however.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1901							62	13	26
1902							6	12	10
1903							130	115	82
1904							170	190	197
1905							22	11	27
1906							71	35	45
1910								30	17
Total	210	260	265	420	425	383	380	328	348

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1901							143	25	61
1902							6	24	29
1903							424	521	225
1904							460	396	632
1905							43	30	160
1906							198	236	186
1910								139	45
Total	780	1000	1145	1400	1033	1128	1274	1371	1338

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
1901							19	0	15
1902							0	0	5
1903							25	42	15
1904							52	120	122
1905							10	11	26
1906							25	38	36
1910								12	15
Total	90	70	80	130	160	187	131	223	235

MITKOF AND WOEWODSKI ISLANDS

Wildlife Analysis Areas 2007, 2008

Habitat Characteristics

Quality and Condition: Pristine habitat on Mitkof Island was excellent. As on other large islands in GMU 3, the deer population crashed during hard winters in the early 1970's and has taken a long time to recover. Mitkof has been extensively logged and roaded with consequent loss of habitat. With habitat losses the population is unlikely to reach historical levels or densities. Some logging has also occurred on Woewodski where habitat quality is fair. Only slightly more than half of Woewodski is productive forest. Wolves and black bears are present on Mitkof (WAA 2007) and Woewodski (WAA 2008) and predation is thought to be one reason for the slow recovery of the deer population. Habitat fragmentation from logging may have increased predation pressure on deer in some areas. The Wrangell Narrows shore of Mitkof Island, the northern tip of the island, and a coastal strip along Sumner Strait on the southeast side of the island are non-National Forest state, municipal, or private lands.

Snow Rating: Mitkof and Woewodski Islands are in a moderate average-snowfall zone.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is for National Forest land only and is derived from analysis of deer habitat characteristics and average winter weather conditions. Habitat capability for non-National Forest land has not been calculated at this time.

Wildlife Analysis Area	1988 Capability
2007	3200
2008	282

Deer Population Status

Deer are more abundant on southern Mitkof than on the northern part of the island. The deer population on southern Mitkof is currently as high or higher in some places than other areas in southeast Alaska which are open to hunting. It is probably close to habitat capability in some areas of the island. Deer numbers on Woewodski Island (WAA 2008) are moderate.

Human Use

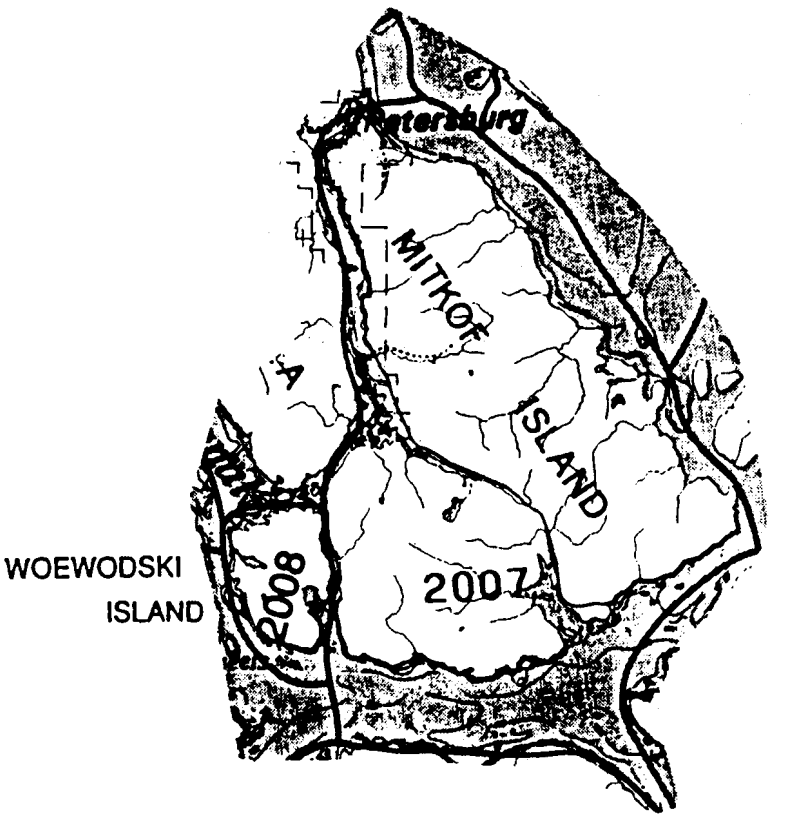
Hunter Residency: Historically, eighty-five percent of the kill on Mitkof was by Petersburg hunters. Hunters from Juneau and Wrangell, and to a lesser extent, Ketchikan and Sitka also hunted Mitkof. There is little information on smaller communities' use of Mitkof. Woewodski was hunted mostly by Petersburg residents.

Access: Most of Mitkof Island is accessible to Petersburg by an extensive logging road network. Woewodski has good boat access.

Demand: Hunters in the 1960's took over 600 deer annually from Mitkof. Hunting has been closed in recent years by desire of Petersburg residents. A proposal for a limited deer hunting season on Mitkof and Woewodski Islands (WAA's 2007 and 2008) has been submitted to the Board of Game and appears to have local support. Nonhunting demand for viewing deer by Petersburg residents on Mitkof appears to be quite high. Historical hunter demand was higher than current long term habitat capability. Hunters are unlikely ever again to achieve harvest levels of the 1960's and Petersburg hunters will probably have to continue to seek deer in areas far from home to meet their demand.

WAA	Hunter Demand	Minimum Deer Needed
2007	612	6120
2008	10	100

MITKOF & WOEWODSKI ISLANDS PLANNING AREA



Note: Hunter demand is based on estimated average annual kill during the years 1960-68 as determined by hunter interviews at that time and in subsequent years. (See Doerr and Sigman, 1986, and Smythe, 1988.) Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

Population objectives reflect the desire to achieve and maintain huntable deer populations on Mitkof and Woewodski. In WAA 2007, further loss of habitat will diminish ability of Mitkof to provide deer for human uses. For that reason, the population objective has been set equal to current habitat capability. In WAA 2008, habitat capability is so low that further loss of habitat could bring the viability of the deer population into question.

WAA	Population Objective
2007	3200
2008	282

KUPREANOF ISLAND

Wildlife Analysis Areas
5130, 5131, 5132, 5133, 5134, 5135, 5136, 5137, 5138

Habitat Characteristics

Quality and Condition: Much of Kupreanof is poor habitat with large areas of muskeg and scrub forest. Only about a third of the land area is in productive forest. A large portion of WAA 5132 is private land. There are private, state, and municipal lands along Wrangell Narrows in WAA 5138. Extensive logging has occurred on the private lands near Kake (WAA 5132) and on National Forest lands throughout the island. It is expected that all habitat on private land will eventually be eliminated. The best habitat on the island is on the lower Lindenberg Peninsula (WAA 5138). Unfortunately, logging has been concentrated on those habitats most valuable to deer. Natural and man-caused fragmentation of habitat on Kupreanof is a serious problem in some areas and may result in lower long-term populations than model predictions. Computer limitations do not allow the habitat model to take into account patch size factors when estimating capability. Black bears and wolves are present. Predation is thought to be a major reason for the slow recovery of the deer population. Effects of predation may be exacerbated as the few remaining blocks of high value old growth habitat are fragmented by continued logging. Because of habitat losses, it is unlikely deer populations or densities will ever reach historic levels. The Rocky Pass coast (in WAA's 5130 and 5131) has been in nonpermanent LUD II designation since 1980. WAA 5137 is the Petersburg Creek designated wilderness. Habitat there is mediocre quality. Snowfall is high in WAA 5137 and more than half the area is nonproductive forest. Of the forested area, more than half is low volume forest with low habitat value.

Snow Rating: Portions of WAA's 5131, 5133, 5136, and 5137, toward the center of Kupreanof Island, are in a deep average-snowfall area. Except for two small areas rated as low average-snowfall zones on the Sumner Strait coast, the rest of the island receives moderate snow levels on average.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is for National Forest land only and is derived from analysis of deer habitat characteristics and average winter weather conditions. Habitat capability for non-National Forest land has not been calculated at this time.

Wildlife Analysis Area	1988 Capability
5130	2564
5131	1533
5132	1134
5133	1941
5134	3845
5135	1007
5136	1186
5137	660
5138	1803

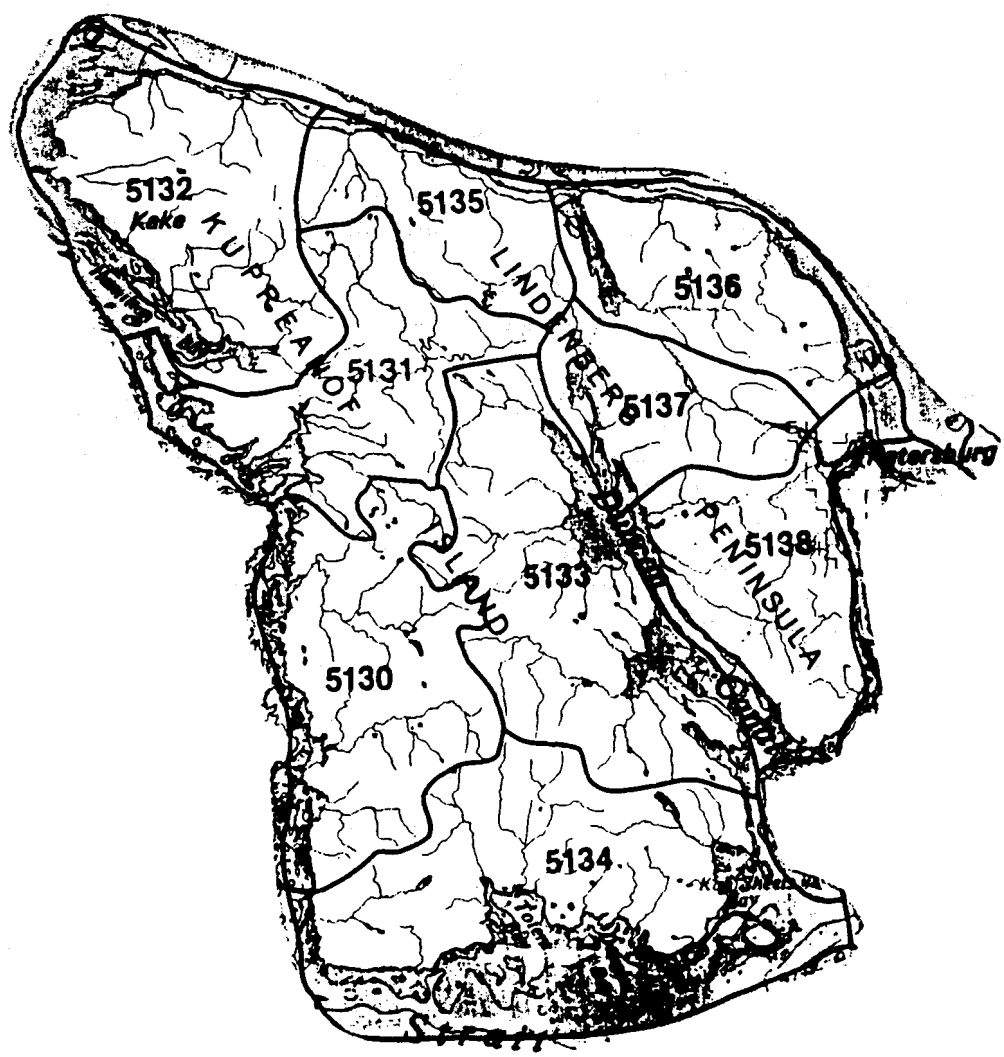
Deer Population Status

The largest island in GMU 3, Kupreanof had high deer numbers prior to the hard winters of the early 70's. The population has not recovered as a rule although some places have higher deer numbers than others. Pellet group surveys throughout the 1980's have found the highest deer densities on the east side of Duncan Canal on the Lindenberg Peninsula (WAA 5138).

Human Use

Hunter Residency: Historically, Kupreanof was heavily hunted by people of Petersburg, Kake, Juneau, and to a lesser extent, Ketchikan, Wrangell, and occasionally Sitka. Little information exists on other communities' use of Kupreanof.

KUPREANOF ISLAND PLANNING AREA



Access: An extensive logging road network is in place on the island which is planned to link Kake with most areas on northern Kupreanof. Kake is accessible by ferry, and so, if hunting is ever restored, hunters will have greater access to more areas of Kupreanof than in the past.

Demand: There is now no open deer season on Kupreanof. The kill averaged over 900 deer annually in the 1960's. An estimated 44% of the total annual kill of Petersburg residents came from Kupreanof in the 1960's. Residents of Kake and Petersburg now must travel much greater distances to hunt deer in southeast Alaska. Greatest hunting use was on the Lindenberg Peninsula and along Rocky Pass. Wilderness designation at Petersburg Creek will mean some increased use by nonhunters.

WAA	Hunter Demand	Minimum Deer Needed
5130	75	750
5131	45	450
5132	129	1290
5133	130	1300
5134	14	140
5135	80	800
5136	180	1800
5137	100	1000
5138	252	2520

Note: Hunter demand is based on estimated average annual kill during the years 1960-68 as determined by hunter interviews at that time and in subsequent years. (See Doerr and Sigman, 1986, Smythe, 1988, and Firman and Bosworth, 1990.) Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

Population objectives reflect the desire to maintain enough habitat to allow deer to return to huntable densities near historical levels. Increasing demand for deer throughout southeast Alaska will make restoring moderate to high density deer populations on Kupreanof important in meeting both hunting and nonhunting demands for deer in the region. Population objectives allow for the reduction of average long term population numbers in WAA's 5130, 5131, 5133, 5134, 5135, and 5136 by a maximum of 25% from pristine conditions to accommodate habitat loss from logging. The objectives for WAA's 5132 and 5138 call for a deer population at the highest density current habitat allows. In both WAA's, loss of National Forest habitat (coupled with loss of nearly all habitat on private land in 5132) would make it difficult for the population to recover to levels that would provide historic levels of harvest. Because WAA 5137 (Petersburg Creek) is designated wilderness, the population objective has been set equal to the current habitat capability to provide for reliable nonhunting encounters as well as for hunting demand.

WAA	Population Objective
5130	2180
5131	1303
5132	1134
5133	1650
5134	3268
5135	906
5136	1067
5137	660
5138	1803

KUIU AND CORONATION ISLANDS

Wildlife Analysis Areas
5012, 5013, 5014, 5015, 5017, 5018

Habitat Characteristics

Quality and Condition: Habitat appears to be good for deer on Kuiu. Unfortunately, logging has concentrated in the habitats most valuable for deer. Northern Kuiu (WAA 5012) has extensive logging and habitat loss and logging has already occurred in portions of WAA 5013 and 5018. Habitat fragmentation is a growing problem on north Kuiu and can be expected to increase in WAA's 5013, 5018, and 5014 in the future. Both wolves and black bears inhabit Kuiu. Habitat fragmentation from logging may have increased predation pressure on deer in some areas. Bay of Pillars in WAA 5013 and the Rocky Pass coastline in WAA 5018 have been in nonpermanent LUD II status since 1980. The Tebenkof Bay area (WAA 5016) and the northern portion of WAA 5017 is designated wilderness. Deer populations are very low here as elsewhere on the island. Coronation Island (WAA 5015) is a designated wilderness and has a huntable population of deer; but that population appears to have severely overgrazed the habitat and is in decline.

Snow Rating: Coronation Island and Kuiu Island south of Tebenkof Bay lie in a low average-snowfall zone. The rest of Kuiu Island receives moderate average-snowfall.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions.

Wildlife Analysis Area	1988 Capability
5012	5990
5013	2516
5014	2513
5015	1333
5016	3568
5017	8012
5018	1886

Deer Population Status

Of all islands in southeast Alaska, Kuiu Island has the lowest density deer population measured by annual pellet group surveys in the 1980's. It has not recovered from the hard winters of the late 1960's and early 70's. The reasons are unknown but, like the other large islands of GMU 3, probably involve predation. The population on Coronation Island is moderate but appears to be in decline because of overuse of habitat. Conclusion Island in WAA 5014 had a high deer population based on a 1987 pellet group survey. However, another survey in 1989 revealed the population had crashed. The reason for the crash is unknown.

Human Use

Hunter Residency: Prior to 1960, up to about 40% of Kake hunters hunted on Kuiu. Kake hunters historically hunted northern Kuiu and Rocky Pass. Rocky Pass was a favored hunting ground for hunters from Petersburg as well as for those from Juneau, Ketchikan, Wrangell, and Sitka in the 1960's. Residents of Wrangell and Edna Bay have hunted recently on Coronation Island.

Access: Rowan Bay logging camp is located on northern Kuiu. Kuiu is remote from most other communities in southeast Alaska except for Kake, Point Baker, Port Protection, and Port Alexander. Residents of the latter three communities must cross exposed bodies of water to get to Kuiu. Nevertheless, protected boat anchorages are plentiful on Kuiu. An extensive logging road system is now in place on northern Kuiu. If hunting is ever resumed on Kuiu, the road system would provide access to much of that part of the island. However, Kuiu is not accessible by ferry so only logging camp residents would be able to use highway

KUIU & CORONATION ISLANDS PLANNING AREA

vehicles. Access to Coronation Island is difficult. The island is exposed to the open Pacific and boat anchorages are not secure.

Demand: Like Kupreanof and Mitkof islands, Kuiu Island had a huntable deer population in the 1950's and 1960's. An average of approximately 200 deer were killed on Kuiu annually in the 1960's; about 15% by Kake hunters. Now Kuiu is closed to deer hunting. Wilderness designation at Coronation, Tebenkof, Malmesbury, Beauclerc, and northern Affleck Canal (WAA's 5015, 5016, and 5017) will mean increased use by nonhunters. Should hunting resume on Kuiu, residents of Point Baker, Port Protection, and possibly Port Alexander may use Kuiu in the future if deer densities decline on Prince of Wales and southern Baranof Island and those on Kuiu rise to comparable levels.

WAA	Hunter Demand	Minimum Deer Needed
5012	68	680
5013	5	50
5014	40	400
5015	11	110
5016	0	0
5017	5	50
5018	80	800

Note: Hunter demand in WAA 5015 (Coronation Island) is calculated based on 1988 harvest total. Hunter demand in other WAA's is based on estimated average annual kill during the years 1960-68 as determined by hunter interviews at that time and in subsequent years. (See Doerr and Sigman, 1986 and Firman and Bosworth, 1990). Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

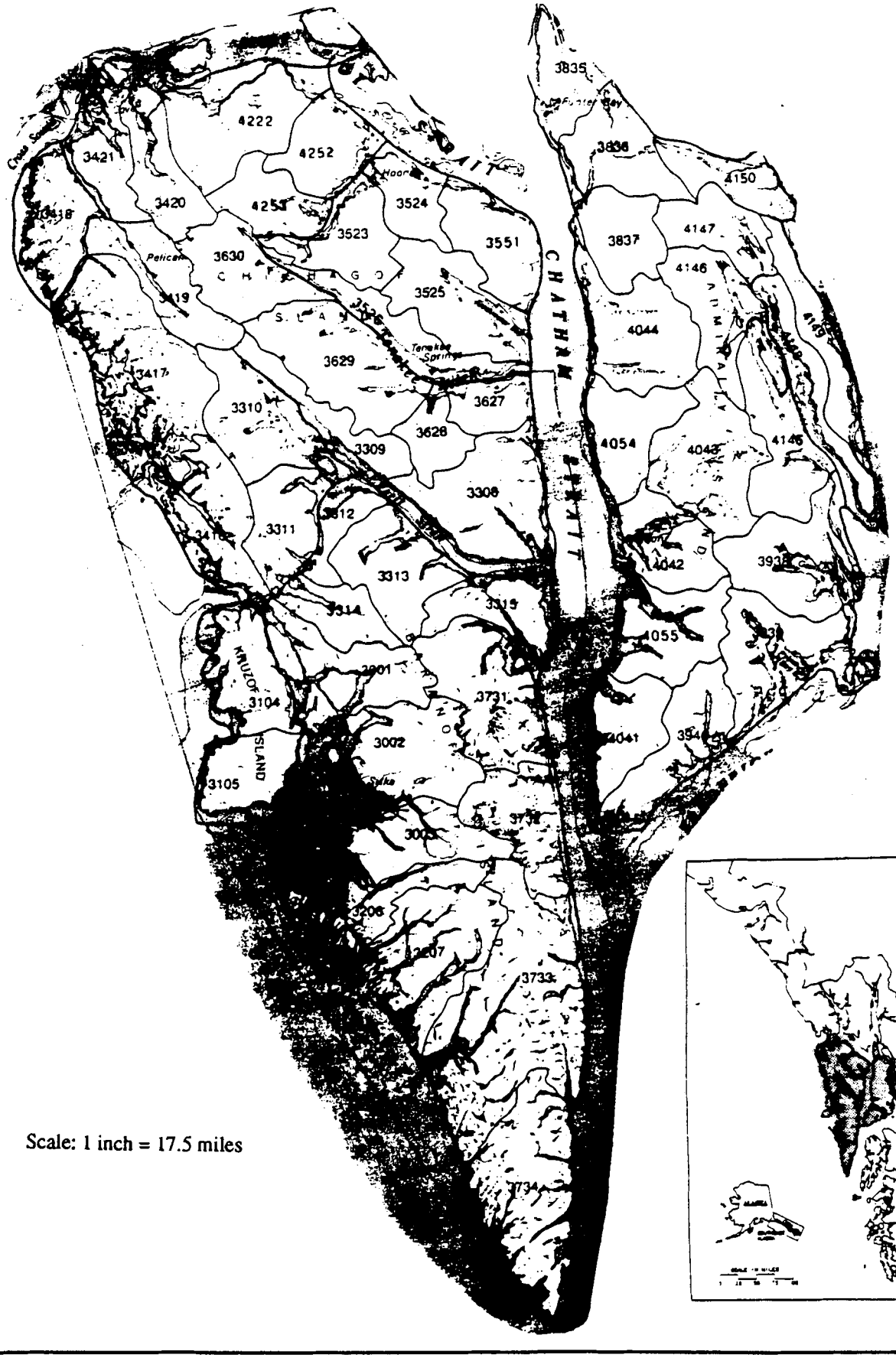
Population objectives reflect the desire to maintain enough habitat to allow deer to return to huntable densities near historical levels. Increasing demand for deer throughout southeast Alaska will make restoring moderate to high density deer populations on Kuiu important in meeting both hunting and nonhunting demands for deer in the region. Population objectives allow for the reduction of average long-term population numbers in WAA's 5012, 5013, 5014, and 5018 by a maximum of 25% from pristine conditions to accommodate habitat loss from logging. The objective for WAA 5017 accepts a 25% reduction in long-term populations to accommodate logging in nonwilderness areas, but the objective in wilderness has been set equal to current habitat capability. Because WAA's 5015 and 5016 are designated wilderness, their population objectives have been set equal to the current habitat capability to provide for reliable nonhunting encounters as well as for hunting demand.

WAA	Population Objective
5012	5390
5013	2137
5014	1885
5015	1333
5016	3568
5017	7253
5018	1603

GAME MANAGEMENT UNIT 4

ABC ISLANDS

GAME MANAGEMENT UNIT 4



Scale: 1 inch = 17.5 miles

GAME MANAGEMENT UNIT 4
INTRODUCTION

Population Status and Trend

The highest deer populations in southeast Alaska currently occur in Unit 4. Deer population fluctuations are normal, and declines in population are attributed to severe winter weather and associated deep-snow conditions (Merriam 1970, Olson 1979) During the early 1980's, deer populations in GMU 4 were at or near carrying capacity. Winter losses during 1981-1982 were among the most severe in recent years. However, they occurred at a high in the deer population, and fawns and old animals were primarily affected. Mild winters from the mid-1970's through 1987, allowed excellent overwinter survival of deer until 1988 when persistent snow caused significant mortality.

While other game management units (GMU's 1,2, and 3) in Southeast have experienced wolf (Canis lupus) predation as a contributing factor to population depression (Merriam 1966, Smith et al.1986), there are no wolves in GMU 4. Brown bears (Ursus arctos) are numerous, and deer predation by brown bears is occasionally noted, but not considered a significant factor.

Although, deer numbers are high throughout most of Unit 4, populations in many areas appear to exceed the long range carrying capacity of their habitat. Unit 4 deer numbers have declined somewhat for this reason, and because of the moderately severe winter of 1988/89.

Regulations

From 1925 to 1954 deer hunting in southeast Alaska was limited to bucks only. Legal bucks were defined as has having three-inch long antlers (or "horns" as they were called). The seasons began in August or September and continued to mid or late November with bag limits of two to three bucks. From 1946 through 1951 non-residents were allowed to harvest one buck a year. Doe (or antlerless deer) hunting was allowed beginning in 1955.

Beginning in 1956, Southeast was divided into Game Management Units 1 through 5, and deer and other wildlife species were managed by these geographical areas. In 1956, the allowable deer harvest in GMU 4 was three bucks with three-inch antlers or longer, or two bucks and one antlerless deer. Shorter seasons for does or antlerless deer were initiated in 1956 as well. Similar doe seasons have remained in place through today with only minor changes.

From 1957 through 1979, a bag limit of four deer was allowed in GMU 4. The hunting season, which in the 1950's ran from August 20 to November 30, was lengthened by almost two months in the early 1960's. Emergency openings to lengthen the season were enacted in 1959, 1960-1962, and 1968.

In 1980 and 1981 the southern third of Admiralty Island was limited to a 3 deer harvest. The rest of GMU 4 retained the four deer bag limit. About this time, there was a one deer per day limit for the Sitka area.

In 1983 the hunting season was extended to include the month of January for drainages on the west side of Admiralty. The bag limit was two deer by registration permit only.

A six deer bag limit was initiated in 1987. The season was in effect from August 1 through January 31 for subsistence hunters, and August 1 through January 7 for resident and nonresident hunters. Antlerless deer could be taken only from September 15 to January 31. The antlerless deer season has remained in place to the present.

In 1988 and 1989, subsistence hunters could harvest 6 deer, and resident and nonresident hunters could each take 3 deer from northeast Chichagof Island. Six deer was the bag limit in the remainder of Unit 4 for all hunters. The season ran from August 1 to January 31 for all hunts.

In 1990, subsistence, resident and nonresident deer hunts had the same the seasons and bag limits. The regulations were the same as those for 1988 and 1989.

Historical Harvest

The following table shows deer harvest in GMU4 from 1980 through 1989. An increased deer population and a longer season helped increase hunter success in 1987. During the winter of 1988, persistent snow caused significant mortality in deer possibly contributing to a decrease in the 1989 harvest.

Year	No. of Hunters	Harvest	Hunter Days
1980	3120	4310	17520
1981	No data collected		
1982	4240	5630	26560
1983	5100	8360	31030
1984	4980	8900	28710
1985	5016	10390	25184
1986	5776	10257	33415
1987	5854	14330	40858
1988	5238	11929	28950
1989	4764	9819	22060

SITKA AREA

Wildlife Analysis Areas 3001, 3002, 3003

Habitat Characteristics

Quality and Condition: Original habitat quality was very good, especially in areas of low elevation. Most of this area is above 800 feet elevation. Extensive logging has occurred throughout the area. Young clearcuts in early successional stages have temporarily added to the supply of browse which because of the mild winters has generally been available to deer. Winter habitats are heavily browsed. Summer forage is not a limiting factor. Large areas of private, municipal, and state land exist around Sitka and along the coast in WAA 3002, and to a lesser extent in WAA 3003. It is expected that all habitat will eventually be eliminated on private land.

Snow Rating: Low to moderate snowfall on the average.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is for National Forest land only and is derived from analysis of deer habitat characteristics and average winter weather conditions. Habitat capability for non-National Forest land has not been calculated at this time.

Wildlife Analysis Area	1988 Capability
3001	2855
3002	1535
3003	1746

Deer Population Status

Years of mild winters have allowed deer populations to reach historic highs. The highest populations are in WAA 3001 on Baranof Island. Deer numbers are expected to decline substantially after severe winters.

Human Use

Hunter Residency: Sitka residents make up a large majority of the hunters in the area, but residents from the following southeast communities have also hunted the area since 1984: Craig, Haines, Juneau, Ketchikan, Petersburg, Wrangell, Elfin Cove, Klawock, Tenakee Springs, Hydaburg, Pelican, Yakutat, Kake, Skagway, Thorne Bay, and Meyers Chuck.

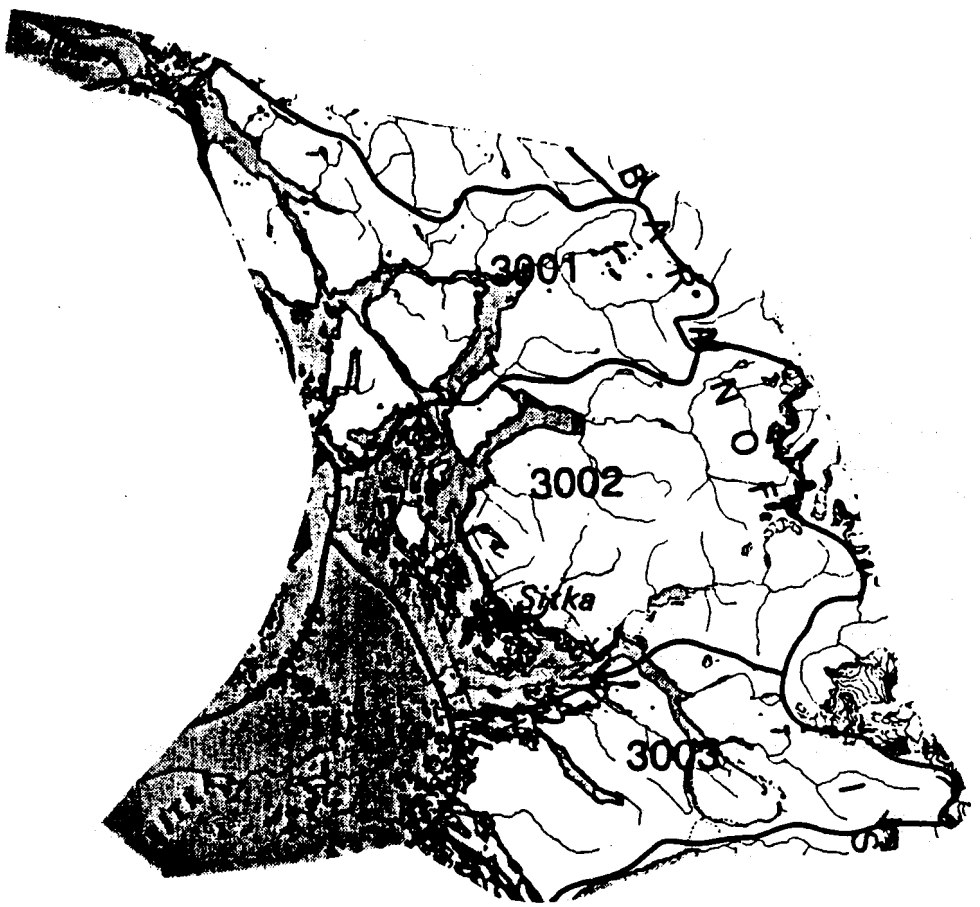
Access: WAA 3002 is linked to the Sitka road system. WAAs 3001 and 3003 have good access by small boat from Sitka.

Demand: This area has been the most heavily hunted area in southeast Alaska by far since 1984. Deer kill in these WAA;s has ranked first or second in the region. Hunting demand far exceeds long-term habitat capability in all WAA's. Mild winters have enabled deer populations to increase to levels well above apparent habitat capability throughout the 1980's allowing demand to be met. As more-severe winters reduce deer populations to levels near long-term habitat capability, the ability of this area to meet hunters' demands will decrease. Bag limits and/or seasons may have to be reduced. Nonsubsistence hunters may lose hunting opportunity. Hunters may be forced to seek deer in other locations. In most surrounding areas, however, demand also exceeds habitat capability so hunters may have to go far afield to find hunting opportunities.

WAA	Hunter Demand	Minimum Deer Needed
3001	731	7310
3002	842	8420
3003	602	6020

Note: Hunting demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them.

SITKA PLANNING AREA



Deer needed is the number of deer needed to support that level of demand indefinitely. It is ten times demand based on a sustainable harvest rate of 10% a year.

Population Objectives

Population objectives reflect the high demand for deer and the need to retain remaining habitat to maintain huntable populations in this popular area.

WAA	Population Objective
3001	2855
3002	1535
3003	1746

Harvest Statistics --- Sitka

Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987. Also, several changes to Wildlife Analysis Area boundaries occurred between 1987 and 1988. Namely, WAA 3001 was considerably reduced. Some southern drainages were added to WAA 3002 and the Fish Bay watershed to the north was made into a separate WAA (3314). Between 1988 and 1989, another change to boundaries enlarged WAA 3002 further by adding a northern drainage from WAA 3003. For these reasons, statistics from WAA's cannot be accurately compared for the years 1987-89. Also, because WAA 3314 is no longer in the Sitka planning area, area totals prior to 1988 cannot accurately be compared to the totals for the years 1988 or 1989.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3001							970	797	497
3002							605	598	650
3003							555	534	400
Total	880	1260	1215	1450	1394	1461	1502	1393	1088

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3001							4054	2192	1269
3002							2716	2165	1751
3003							1614	1162	989
Total	3920	6770	6200	6660	4889	7412	8383	5519	4008

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3001							1247	1028	554
3002							436	592	638
3003							530	489	458
Total	800	1160	1410	1810	1847	1659	2214	2109	1650

KRUZOF ISLAND

Wildlife Analysis Areas 3104, 3105

Habitat Characteristics

Quality and Condition: Logging roads and clearcuts occur in WAA 3104 on the northern portion of the island. Very little high volume timber occurs in WAA 3105 although there are pockets of timber still available throughout both WAA's.

Snow Rating: WAA 3105 and the west coast drainages of WAA 3104 are in a low average-snowfall zone. The rest of Kruzof receives moderate snowfalls on average.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions.

Wildlife Analysis Area	1988 Capability
3104	3210
3105	2474

Deer Population Status

Populations were high in the mid 1980's but seem to be declining somewhat now. Low snowfall and short persistence of snow on the ground on the western and southern coasts permit good deer survival.

Human Use

Hunter Residency: Kruzof is important to Sitka hunters. From 10-14% of Sitka's hunting effort occurs on Kruzof Island. Each year some Juneau residents report hunting there as well. Since 1984, residents of Wrangell, Klawock, Ketchikan, Petersburg, Port Alexander, and Skagway have also reported hunting on Kruzof.

Access: The northern part of the island (WAA 3104) is typically more heavily hunted than the south (WAA 3105). Better boat access and a possibly higher deer density are reasons for that preference. During good weather, Sitka Sound is easily negotiated in a skiff, and many hunters take advantage of the proximity of the southeastern shore to Sitka. There are several Forest Service recreation cabins on the island that are used by hunters.

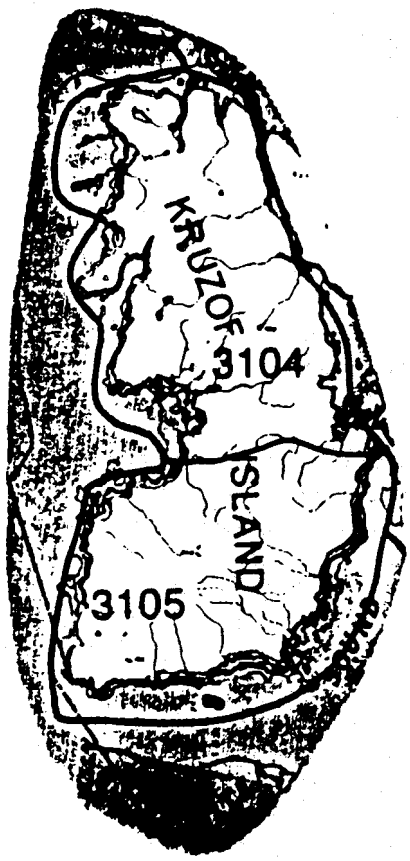
Demand: Demand exceeds habitat capability in this area. Mild winters have enabled deer populations to increase to levels well above apparent habitat capability throughout the 1980's allowing harvest to approach demand. As more-severe winters reduce deer populations to levels near long-term habitat capability, the ability of this area to meet hunters' demands will decrease. Bag limits and/or seasons may have to be reduced. Nonsubsistence hunters may lose hunting opportunity. Hunters may be forced to seek deer in other locations. In most surrounding areas, however, demand also exceeds habitat capability so hunters may have to go far afield to find hunting opportunities. Loss of habitat in this area will exacerbate the problem. As deer populations and hunter success decline on neighboring Baranof Island, hunter use of Kruzof may increase. Southern Kruzof has been proposed for status as a National Recreation Area in the draft Forest Plan revision. If approved, wildlife oriented use of the island will likely increase.

WAA	Hunter Demand	Minimum Deer Needed
3104	763	7630
3105	507	5070

Population Objectives

Population objectives reflect the high demand for deer and the need to retain remaining habitat to provide for hunting and nonhunting demand in this popular area.

KRUZOF ISLAND PLANNING AREA



WAA	Population Objective
3104	3210
3105	2474

Harvest Statistics — Kruzof Island
Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3104							482	475	241
3105							201	93	95
Total	280	490	550	480	526	483	594	524	304

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3104							1774	1264	430
3105							577	123	268
Total	910	1540	2245	1760	1524	1640	2351	1388	698

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3104							584	559	133
3105							383	111	78
Total	250	380	610	470	599	443	967	671	211

WESTERN BARANOF ISLAND

Wildlife Analysis Areas 3206, 3207

Habitat Characteristics

Quality and Condition: As elsewhere on Baranof Island, the terrain is steep, much of the land area is in alpine and high quality winter habitat is scarce. WAA 3207 is part of the South Baranof designated wilderness area.

Snow Rating: Most of the planning area is in a high average-snowfall zone. The offshore islands of WAA 3206 are in a low snowfall zone, and a portion of the coast in that WAA is rated as being in a moderate snow zone.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions.

Wildlife Analysis Area	1988 Capability
3206	1226
3207	1025

Deer Population Status

Deer populations are moderate. Mild winters have allowed deer populations to exceed modeled long-term habitat capability in recent years.

Human Use

Hunter Residency: This area is hunted mostly by Sitka residents. Hunters from Juneau, Port Alexander, Haines, Wrangell, Ketchikan, Klawock, and Skagway have also hunted in the area since 1984.

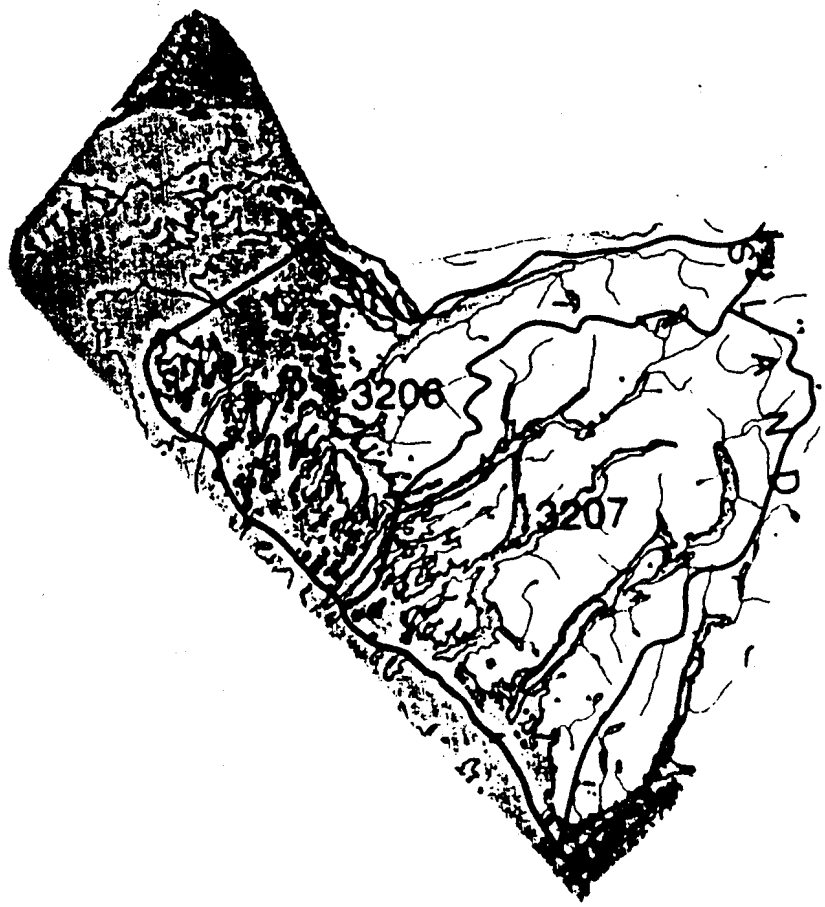
Access: The area is bordered by the Pacific Ocean but much of the Baranof coast here is protected from the open ocean by offshore islands. Protected anchorages are plentiful and boat access is good. Hunting demand exceeds current habitat capability in both WAA's.

Demand: Mild winters have enabled deer populations to increase to levels well above apparent habitat capability throughout the 1980's allowing harvest to approach demand. As more-severe winters reduce deer populations to levels near long-term habitat capability, the ability of this area to meet hunters' demands will decrease. Bag limits and/or seasons may have to be reduced. Nonsubsistence hunters may lose hunting opportunity. Hunters may be forced to seek deer in other locations. In most surrounding areas, however, demand also exceeds habitat capability so hunters may have to go far afield to find hunting opportunities. Loss of habitat in this area would exacerbate the problem. Nonhunting use may increase in WAA 3207 because of its wilderness status.

WAA	Hunter Demand	Minimum Deer Needed
3206	375	3750
3207	238	2380

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

WESTERN BARANOF ISLAND PLANNING AREA



Population Objectives

Population objectives in both WAA's reflect the high hunter demand for deer and the need to maintain current habitat capability to provide deer for that demand. Wilderness designation and the probable increase in nonhunting demand in WAA 3207 is another reason the objective for that WAA has been set equal to habitat capability.

WAA	Population Objective
3206	1226
3207	1025

Harvest Statistics — Western Baranof Island

Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3206							148	104	138
3207							106	105	85
Total	190	230	240	180	280	239	236	209	191

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3206							308	236	415
3207							317	796	330
Total	530	850	870	670	754	726	625	1032	745

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3206							286	146	186
3207							183	148	128
Total	160	220	220	220	292	285	469	294	314

EASTERN AND SOUTHERN BARANOF ISLAND

Wildlife Analysis Areas 3731, 3732, 3733, 3734

Habitat Characteristics

Quality and Condition: Terrain is quite steep. Much of the land area is above tree line. High quality winter habitat is scarce. Modeled habitat capability suggests that habitat in WAA 3732 may not be sufficient to sustain a viable deer population over the long term. WAA 3733 is part of the South Baranof designated wilderness and WAA 3734 is a designated LUD II roadless area. Logging has occurred in Kelp Bay in the extreme north of WAA 3731. More logging is planned for that area. Until the deep snow winter of 1988-89, consistently more people hunted that WAA than any other in this planning area. The loss of winter habitat from earlier logging in Kelp Bay may have exacerbated the natural winter kill there.

Snow Rating: The extreme southern and western parts of the area and the northern two-thirds of WAA 3731 are in a moderate average-snowfall zone. The rest of the area is in a deep snow zone.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions.

Wildlife Analysis Area	1988 Capability
3731	870
3732	352
3733	2107
3734	2274

Deer Population Status

In recent years, mild winters have prevailed, but in 1988-89 deep snow in the northern parts of the area (WAAs 3731, 3732, and part of 3733) appears to have decreased the deer population somewhat.

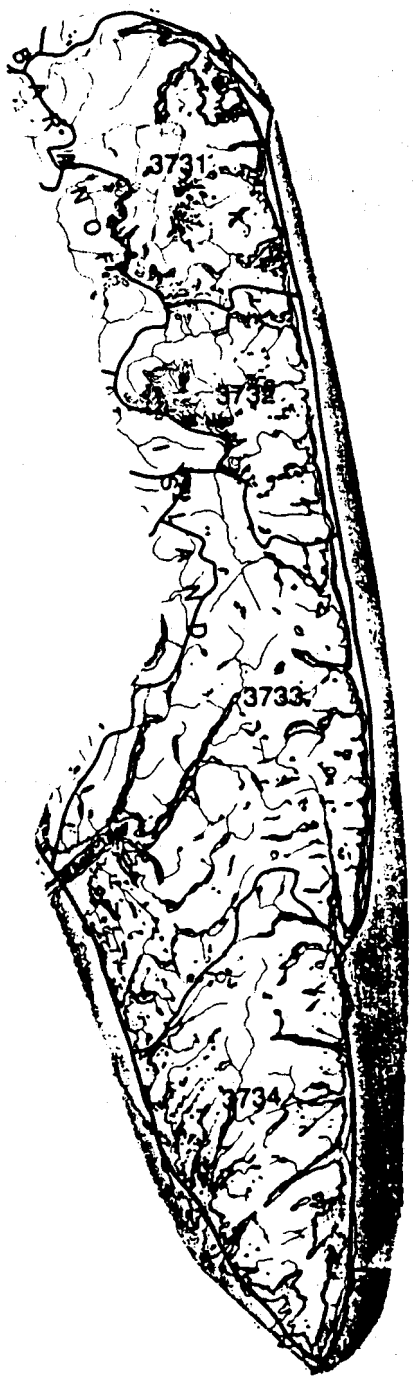
Human Use

Hunter Residency Port Alexander is the only community within this area. Hatcheries at Port Armstrong and Hidden Falls, a fishery research station at Little Port Walter, and a resort at Baranof Warm Springs are other settlements. Hunters from Port Alexander, Petersburg, Sitka, Juneau, and Wrangell regularly hunt this part of Baranof. Residents of Kake, Ketchikan, Edna Bay, and Rowan Bay logging camp have also hunted here since 1984. Approximately 10% of Petersburg's total annual hunter effort has been expended here in the past few years.

Access: Because the west coast of Baranof is quite remote and exposed to the Pacific, most hunting is on the east coast of Baranof. The area is practically road free but many sheltered bays and fjords on the coast provide excellent boat access.

Demand: Hunting demand exceeds current habitat capability in two of the four WAA's (3731 and 3733) in this area and is essentially equal to habitat capability in a third (WAA 3732). Mild winters have allowed deer populations to exceed modeled long-term habitat capability recently. As more-severe winters reduce deer populations to levels near long-term habitat capability, the ability of this area to provide for hunters' demands will decrease. Bag limits and/or seasons may have to be reduced. Restrictions may be placed on nonlocal hunters. Hunters may be forced to seek deer in other locations farther afield. Because of its remoteness from communities other than Port Alexander, WAA 3734 is probably not a ready alternative for those hunters. Continued loss of habitat in WAA 3731 will exacerabate the problems. With a large section of the planning area in wilderness, nonconsumptive users are likely to increase.

EASTERN & SOUTHERN BARANOF ISLAND PLANNING AREA



WAA	Hunter Demand	Minimum Deer Needed
3731	190	1900
3732	27	270
3733	211	2110
3734	99	990

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

Population objectives reflect the need to maintain current habitat capability to provide for hunting demand and to provide reliable nonhunting encounters in WAA's 3731 and 3733. The objective for WAA 3732 has also been set equal to the habitat capability. Habitat capability is so low in WAA 3732 that viability of deer populations could be in question if any habitat were to be lost. In WAA 3734, the objective is to maintain the population at a minimum of 75% of current habitat capability to maintain options for both hunting and nonhunting users.

WAA	Population Objective
3731	870
3732	352
3733	2107
3734	1706

Harvest Statistics — Eastern and Southern Baranof Island
Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3731							115	131	50
3732							30	5	30
3733							80	77	46
3734							76	48	82
Total	100	150	220	200	203	247	257	251	187

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3731							405	520	150
3732							55	11	107
3733							231	147	205
3734							312	186	357
Total	280	540	860	940	655	943	1002	864	819

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3731							130	439	108
3732							19	5	68
3733							140	114	122
3734							92	87	153
Total	110	210	360	350	408	421	382	645	451

PERIL STRAIT

Wildlife Analysis Areas
3308, 3309, 3310, 3311, 3312, 3313, 3314, 3315

Habitat Characteristics

Quality and Condition: This large area encompasses the northern part of Baranof Island and southern Chichagof Island; both shores of Peril Strait including Hoonah Sound. WAA 3008 and 3315 have been extensively logged, as have the major stream valleys in Rodman Bay (WAA 3313) and Fish Bay (WAA 3314). Habitat value has been reduced correspondingly in those WAAs. WAA 3312 also has had some logging. Modeled habitat capability values suggest that the habitat in WAA 3312 may not be able to sustain a viable deer population over the long term. More logging is scheduled for WAAs 3315, 3308, and 3313 within the next three years. WAA 3310 and most of 3309, upper Hoonah Sound were designated permanent LUD II by Congress and so are protected from logging.

Snow Rating: All of this planning area except the extreme upper reach of Hoonah Sound is in a moderate snowfall zone. The upper ends of WAA's 3310 and 3309 receive heavy average-annual snowfalls.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions.

Wildlife Analysis Area	1988 Capability
3308	3643
3309	1085
3310	1474
3311	1178
3312	514
3313	1955
3314	1036
3315	1282

Deer Population Status

WAA 3309 has had the highest density of deer in southeast Alaska over the past eight years based on pellet group survey data. In 1989, more deer were killed in this planning area than in any other. Deer abundance and habitat quality vary widely in this area. Current high populations as a result of mild winters account for the high harvest.

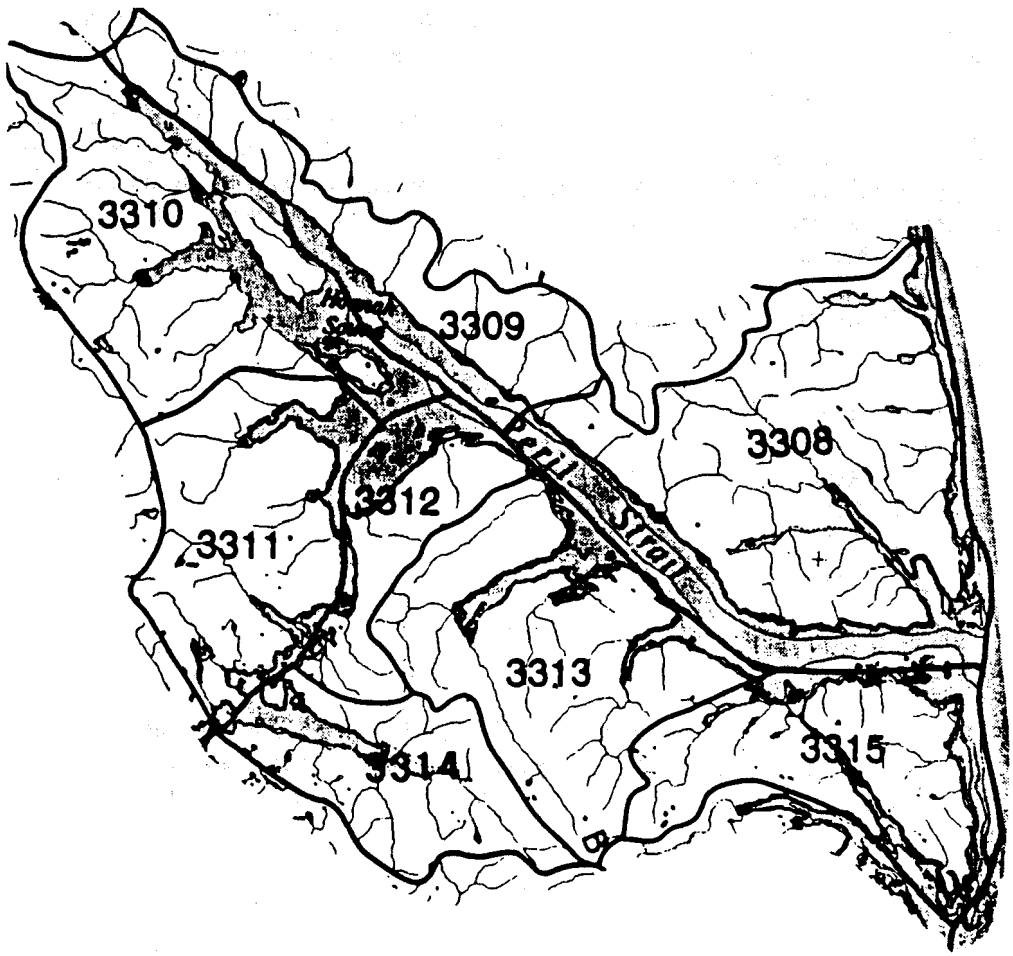
Human Use

Hunter Residency: Hunters from all over southeast hunt in Peril Strait. Sitka hunters account for more deer in every WAA than hunters from other communities except in WAA 3315. There, Petersburg hunters regularly kill the most deer. It is also a popular area for Ketchikan and Angoon hunters.

Access: The area is accessible by skiff from Sitka and Angoon when the weather is good. Sitka residents must negotiate Salisbury Sound and Angoon residents must cross Chatham Strait, both of which can be very rough. Petersburg residents normally hunt from large fishing vessels in this area.

Demand: In general, hunter demand is high throughout the area. Long term habitat capability values suggest that, in all WAA's, the current harvest numbers are not sustainable over the long term. Mild winters have enabled deer populations to increase to levels well above apparent habitat capability throughout the 1980's allowing harvest to approach demand. As more-severe winters reduce deer populations to levels near long-term habitat capability, the ability of this area to meet hunters' demands will decrease. Bag limits and/or seasons may have to be reduced. Nonsubsistence hunters may lose hunting opportunity. Hunters may be forced to seek deer in other locations. In most surrounding areas, however, demand also

PERIL STRAIT PLANNING AREA



exceeds habitat capability so hunters may have to go far afield to find hunting opportunities. Loss of habitat in this area will exacerbate the problem.

WAA	Hunter Demand	Minimum Deer Needed
3308	458	4580
3309	161	1610
3310	357	3570
3311	431	4310
3312	325	3250
3313	313	3130
3314	297	2970
3315	277	2770

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

Objectives reflect the current high demand and use in all WAA's in this area and the need to maintain habitat and populations to provide deer for that demand.

WAA	Population Objective
3308	3643
3309	1085
3310	1474
3311	1178
3312	514
3313	1955
3314	1036
3315	1282

Harvest Statistics — Peril Strait

Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987. Also, several changes to Wildlife Analysis Area boundaries occurred between 1987 and 1988. Namely, the northern portion of WAA 3311 was added to WAA 3310; the northern shore of Hoonah Sound was moved from WAA 3310 to WAA 3309; and, WAA 3314 was created from a portion of WAA 3001 and added to the Peril Strait planning area. For that reason, statistics for WAA's 3309, 3310, and 3311 from 1987 should not be considered equivalent to subsequent years for purposes of comparison. Also, totals for all WAA's prior to 1988 cannot be accurately compared to those from 1988 on.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3308							199	119	105
3309							135	105	94
3310							165	235	157
3311							400	231	195
3312							172	164	143
3313							150	97	93
3314								304	135
3315							108	98	92
Total	330	460	615	590	616	597	856	834	717

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3308							759	409	349
3309							374	261	206
3310							453	668	414
3311							1416	505	451
3312							406	306	266
3313							356	194	262
3314								452	300
3315							340	284	240
Total	1100	1610	2660	2240	2050	2339	4104	3079	2489

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3308							361	187	186
3309							189	161	195
3310							402	272	364
3311							518	330	306
3312							250	180	154
3313							215	125	187
3314								228	135
3315							218	184	216
Total	300	370	790	910	1128	960	2154	1666	1743

WESTERN CHICHAGOF ISLAND

Wildlife Analysis Areas
3416, 3417, 3418, 3419, 3420, and 3421

Habitat Characteristics

Quality and Condition: Much of the area (WAA's 3416, 3417, and most of 3418) is designated wilderness. Little high value old growth winter habitat exists in this planning area except in the Lisianski River valley. The valley was protected by Congress with a present LUD II.

Snow Rating: Because of the ocean influence, winters at low elevations on the west coast have low average-annual snowfalls. Most of the drainages of Lisianski Inlet, Idaho Inlet, and the head of Port Althorp are in a heavy snowfall zone. Upland areas facing the west on Chichagof Island and northern Yakobi Island are rated as moderate snowfall areas.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions.

Wildlife Analysis Area	1988 Capability
3416	1831
3417	2926
3418	2322
3419	487
3420	588
3421	946

Deer Population Status:

Although there is little deer winter range in this area, the moderating influence of the Pacific enables populations to stay high during moderate winters in WAA's 3416, 3417, and 3418.

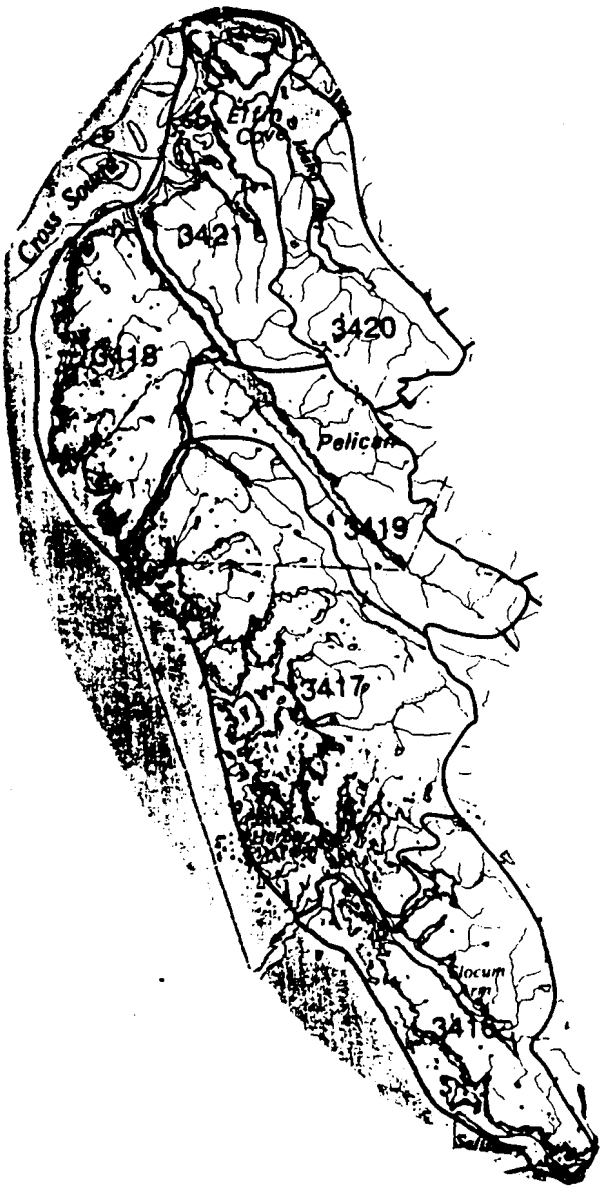
Human Use

Hunter Residency: The communities of Pelican and Elfin Cove are located in this area. Sitka, Juneau, Haines, Pelican, Elfin Cove, Gustavus, and Petersburg hunters have reported using this area in recent years.

Access: Ease of access varies dramatically in this planning unit. The outer coasts of Chichagof and Yakobi Island are reached only by traversing areas exposed to the open ocean. There are numerous anchorages behind the barrier islands and in Slocum Arm, but a trip to the anchorages is hazardous in a small vessel. Access to the inside areas from Elfin Cove and Pelican is quite good.

Demand: Demand is high relative to the long-term habitat capability. Only in WAA 3418 (Yakobi Island) does demand fall within the long-term capability. Mild winters have enabled deer populations to increase to levels well above apparent habitat capability throughout the 1980's allowing harvest to approach demand. As more-severe winters reduce deer populations to levels near long-term habitat capability, the ability of this area to provide for hunters' demands will decrease. Bag limits and/or seasons may have to be reduced. Nonsubsistence hunters may lose hunting opportunity. Hunters may be forced to seek deer in other locations. In most surrounding areas, however, demand also exceeds habitat capability so hunters may have to go far afield to find hunting opportunities.

WESTERN CHICHAGOF ISLAND PLANNING AREA



WAA	Hunter Demand	Minimum Deer Needed
3416	215	2150
3417	511	5110
3418	171	1710
3419	141	1410
3420	241	2410
3421	147	1470

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

Objectives reflect the current high demand and the need to maintain habitat and populations to provide deer for that demand. In WAA 3418, the objective reflects a decrease of 25% of the habitat capability on unprotected lands to accommodate likely future timber harvest or other development.

WAA	Population Objective
3416	1831
3417	2926
3418	2169
3419	487
3420	588
3421	946

Harvest Statistics — Western Chichagof Island

Harvest statistics by Wildlife Analysis Areas was not available before 1987. Also, a change to Wildlife Analysis Area boundaries occurred between 1987 and 1988. Namely, the northern portion of WAA 3419 was split off to become the newly created WAA 3421. For that reason, statistics for WAA 3419 from 1987 should not be considered equivalent to subsequent years for purposes of comparison. The totals for all WAA's in the planning area are comparable from year to year, however.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3416							132	93	85
3417							217	144	113
3418							87	51	89
3419							132	64	53
3420							66	49	62
3421								55	62
Total	250	330	395	400	367	387	478	374	347

Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3416							269	229	245
3417							873	618	459
3418							304	161	223
3419							446	371	237
3420							258	305	205
3421								131	171
Total	1280	1650	1575	1870	1861	1598	2149	1815	1540

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3416							163	148	96
3417							379	268	248
3418							123	78	92
3419							202	100	102
3420							173	104	99
3421								98	109
Total	400	490	705	690	642	622	1041	796	745

NORTHEAST CHICHAGOF ISLAND

Wildlife Analysis Areas
3523, 3335, 3524, 3525, 3526, 3551

Habitat Characteristics

Quality and Condition: Original habitat quality was excellent. However, extensive logging has occurred and substantial amounts of habitat have been lost. A large portion of WAA 3524, and areas in WAA's 3523 an 3526 are private or municipal lands. It is expected that all habitat on private lands will eventually be eliminated. In early 1991, only two stream drainages in the planning area remained mostly unlogged.

Snow Rating: All of northeastern Chichagof Island is rated as a moderate average-annual snowfall zone.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is for National Forest land only and is derived from analysis of deer habitat characteristics and average winter weather conditions. Habitat capability for non-National Forest land has not been calculated at this time.

Wildlife Analysis Area	1988 Capability
3523	1966
3524	1307
3525	2309
3526	1681
3551	2052

Deer Population Status

As hunter numbers increased, local residents were concerned about deer population declines and fewer deer for subsistence users. Beginning with the 1988 season, non-subsistence hunters were restricted to a three deer bag limit on northeast Chichagof. Subsistence hunters were allowed a six deer limit as in the rest of Game Management Unit 4.

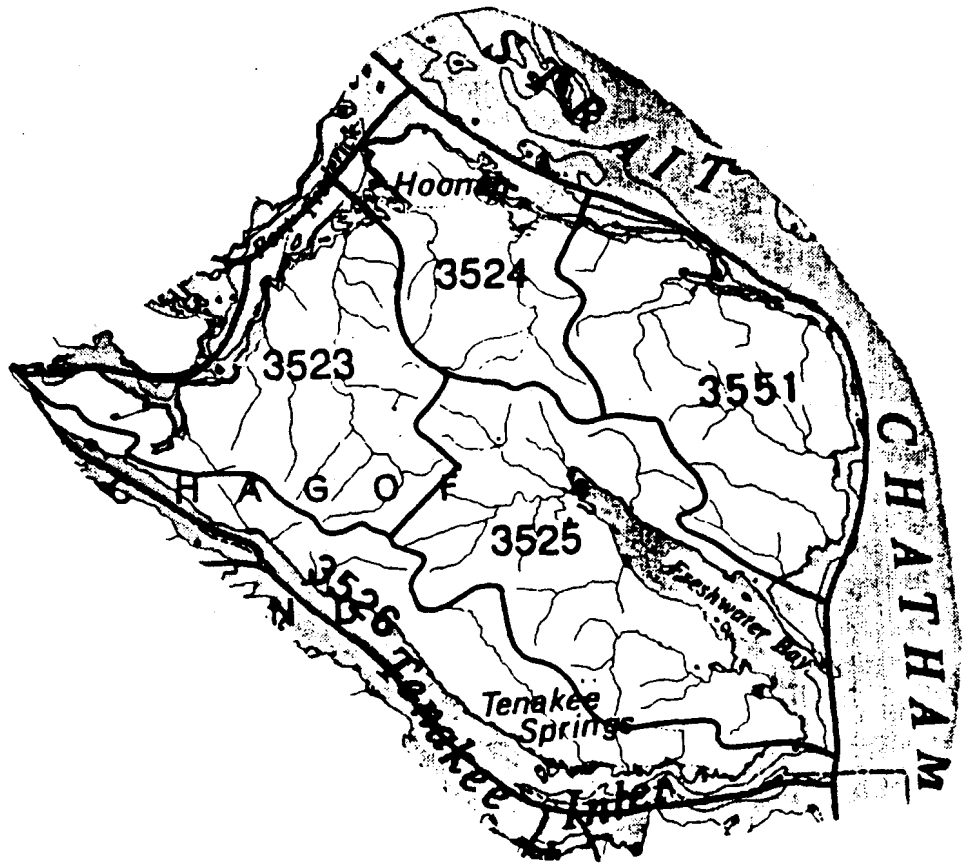
Human Use

Hunter Residency: Residents from almost every community in southeast Alaska have reported hunting here. Since 1984, residents of Hoonah, Haines, Game Creek, Tenakee Springs, Excursion Inlet, Juneau, Sitka, Gustavus, Skagway, Petersburg, Ketchikan, Funter Bay, Port Alexander, and Whitestone, Eight Fathom Bight, Freshwater Bay, and Cube Cove logging camps have reported hunting Northeast Chichagof. In terms of number of hunters, 60% of Hoonah's hunting effort and about 20% of Haines' hunting effort occurs here.

Access:Since 1987 this area has had the third highest annual total of hunters of all areas in southeast Alaska. Prior to 1986, hunter numbers here were high but not exceptionally so. Increased use coincides with the expanding of the road system as a result of extensive logging in the area. State ferry access to Hoonah allows hunters from Juneau, Sitka, and other large communities to use the road system. The communities of Hoonah, Tenakee Springs, and Game Creek, and the Freshwater Bay and Whitestone logging camps are located in the area.

Demand: Demand exceeds or equals long-term habitat capability in all WAA's in the area. Mild winters have enabled deer populations to increase to levels well above apparent habitat capability throughout the 1980's allowing harvest to approach demand. As more-severe winters reduce deer populations to levels near long-term habitat capability, the ability of this area to provide for hunters' demands will decrease. Bag limits and/or seasons may have to be reduced. Nonsubsistence hunters may continue to lose hunting opportunity.

NORTHEAST CHICHAGOF ISLAND PLANNING AREA



WAA	Hunter Demand	Minimum Deer Needed
3523	247	2470
3524	595	5950
3525	590	5900
3526	323	3223
3551	200	2000

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

Population objectives reflect the high demand for deer in all WAA's and the need to retain remaining habitat to provide deer for that demand in this popular area.

WAA	Population Objective
3523	1966
3524	1307
3525	2309
3526	1681
3551	2052

Harvest Statistics — Northeast Chichagof

Harvest statistics by Wildlife Analysis Areas were not available before 1987. Originally this area included lands west of Port Frederick which now make up the Icy Strait planning area. Major changes to Wildlife Analysis Area boundaries occurred between 1987 and 1988. All WAA boundaries were adjusted to better reflect discrete deer populations and better correspond with land ownership boundaries. WAA 3625 (Freshwater Bay) was renamed 3525 and included in the Northeast Chichagof planning area. Between 1988 and 1989, more changes occurred. WAA 3626 was renamed 3526 and added to the planning area, and a separate Icy Strait planning area was established west of Port Frederick. All of those changes have made it impossible to accurately separate harvest statistics for the current planning area from those collected under the old reporting areas. In the following tables therefore, data prior to 1988, marked with an *, are from the old reporting area. That area included WAA's now a part of the Icy Strait planning area and did not include WAA's 3525 or 3526 or part of 3551. Consequently, totals from years prior to 1988 are not comparable to totals from 1988 on.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3523								146	151
3524								313	344
3525								231	161
3526								165	205
3551								130	255
Total	280*	430*	525*	490*	546*	941*	844*	749[1]	882

[1]Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year. The total for 1988 is an estimate because reported totals did not include WAA 3526, then in another planning area. The estimate is based on the average percentage of hunters who hunted in more than one WAA in the Northeast Chichagof area in 1988.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3523								509	319
3524								1285	859
3525								913	403
3526								825	690
3551								378	538
Total	1740*	3690*	3640*	2930*	2247*	5916*	6397*	3910	2813

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3523								184	157
3524								444	289
3525								364	289
3526								219	285
3551								145	307
Total	420*	590*	810*	800*	1165*	1901*	1732*	1356	1327

SOUTH SHORE TENAKEE INLET

Wildlife Analysis Areas 3627, 3628 3629, 3630

Habitat Characteristics

Quality and Condition: Habitat quality is generally low in the northern part of the area. The Kadashan drainage (WAA 3628) and part of Trap Bay (WAA 3627) have better habitat and were designated permanent LUD II areas by Congress. Elsewhere, logging is likely to occur in most stream valleys and shores of the inlet and its bays. Because these areas also have the best deer habitat, especially in the northern part of the planning area, long-term deer populations could decline significantly. Little logging has occurred in the area as yet except in Corner Bay (WAA 3627).

Snow Rating: The northern portion of WAA 3629 and all of WAA 3630 are in a deep average-annual snowfall zone. The rest of the area receives moderate average-annual snowfall.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions.

Wildlife Analysis Area	1988 Capability
3627	1019
3628	1195
3629	2003
3630	610

Deer Population Status

Recent mild winters have allowed populations to exceed long-term capability.

Human Use

Hunter Residency: This area is hunted regularly by hunters from Juneau, Haines, and Tenakee Springs. Twenty percent of Haines hunting effort is in this area. Eight percent of Juneau hunters and over 30% of Tenakee Springs hunters hunt the south shore of Tenakee Inlet. Residents of Angoon, Skagway, Sitka, Cube Cove and Whitestone logging camps, Excursion Inlet, Petersburg, Hoonah, Ketchikan, Petersburg, Wrangell, Gustavus, and Yakutat have also reported hunting here occasionally since 1984.

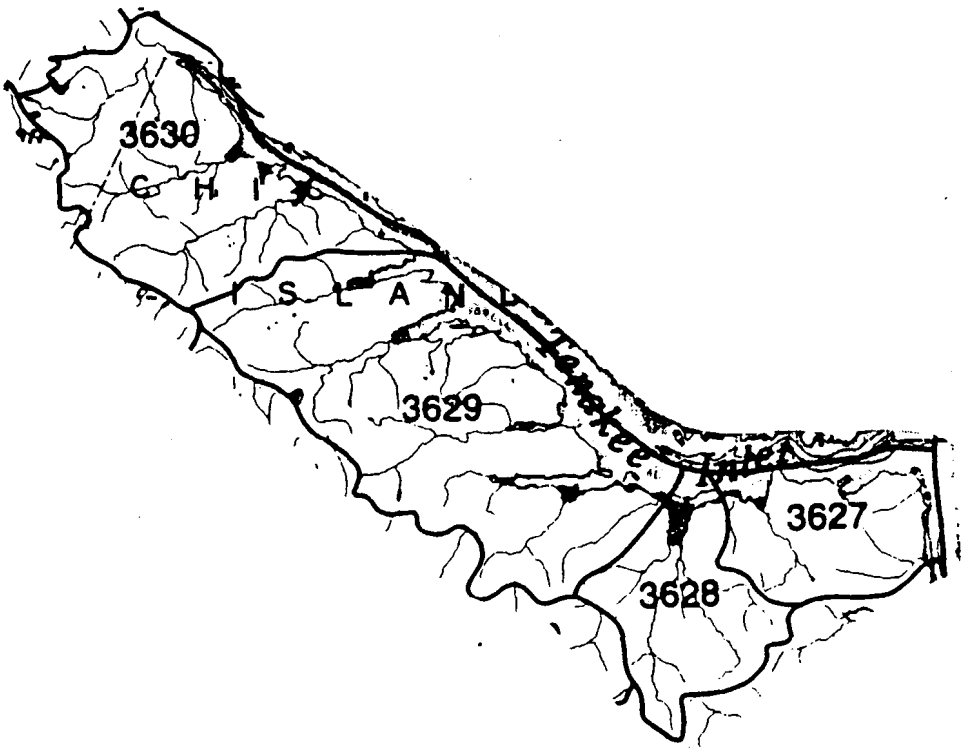
Access: Hunters who take the Alaska ferry to Tenakee Springs can use an inflatable or small boat to access this area. Tenakee Inlet is often calm enough to negotiate in a skiff or inflatable.

Demand: Hunter demand already exceeds habitat capability in WAA 3629. Recent mild winters have allowed populations to exceed long-term capability and allowed harvest to approach demand. As deer populations decline to long-term levels hunters will have to shift their efforts to other areas. There is potential for Kadashan and Trap Bay to absorb more hunter effort and harvest, but if large habitat losses occur elsewhere in the area, hunters' options may be restricted in the future.

WAA	Hunter Demand	Minimum Deer Needed
3627	64	640
3628	56	560
3629	568	5680
3630	42	420

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

SOUTH SHORE TENAKEE INLET PLANNING AREA



Population Objectives

Population objectives reflect the popularity of this area to a core of hunters from northern Southeast and the need to restrict habitat losses so that demand for deer can be met. In WAA 3627, the objective is to maintain the population at a minimum of 75% of pristine habitat capability to maintain options for both hunting and nonhunting users. The objective for the protected Kadashan drainage (WAA 3628) has been set equal to the habitat capability. Because hunter demand exceeds habitat capability in WAA 3629, further declines in habitat capability would be undesirable. The population objective seeks to maintain deer to provide for demand. The objective for WAA 3630 accepts some reduction in habitat capability to accommodate logging, but has been set at a figure which retains more than 75% of pristine habitat capability to ensure the viability of the deer populations in that WAA.

WAA	Population Objective
3627	820
3628	1195
3629	2003
3630	500

Harvest Statistics — South Shore Tenakee Inlet

Harvest statistics by Wildlife Analysis Areas were not available before 1987. Also, changes to Wildlife Analysis Area boundaries occurred between 1987 and 1988. Namely, WAA 3625 was renamed WAA 3525 and made a part of the Northeast Chichagof Island planning area, and the portion of WAA 3630 on the north shore of Tenakee Inlet was made part of WAA 3626. Between 1988 and 1989, WAA 3626 was renamed WAA 3526 and also made a part of the Northeast Chichagof Island planning area. Planning area totals prior to 1987 marked with an * include statistics from areas now a part of WAA's 3525 and 3526. Consequently, totals from years prior to 1987 are not comparable to totals from 1987 on.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3627							56	87	58
3628							58	45	11
3629							165	132	115
3630							75	18	25
Total	270*	300*	395*	330*	389*	516*	269[1]	214[1]	185

[1]Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year. Totals for 1987 and 1988 are estimates because reported totals included WAA's 3525 and 3526, now in another planning area. The estimates are based on average percentage of hunters who hunt in more than one WAA in the South Shore Tenakee area.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3627							171	203	143
3628							212	109	13
3629							635	417	430
3630							343	59	55
Total	1360*	1370*	2120*	1460*	1573*	2916*	1361	788	641

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3627							45	112	95
3628							42	71	10
3629							417	232	175
3630							100	31	41
Total	320*	360*	675*	630*	756*	935*	604	446	321

ICY STRAIT

Wildlife Analysis Areas 4222, 4252, 4253, 4256

Habitat Characteristics

Quality and Condition:Pristine habitat was generally very good. Extensive logging has occurred in both WAA's 4252 and 4253 with consequent loss of habitat. More logging is likely. A large portion of WAA 4252 is private land. It is expected that habitat on private lands will eventually be completely eliminated. The northern portions of WAA 4222 were designated permanent LUD II areas by Congress which also designated Pleasant and Lemesurier Islands wilderness (WAA 4256).

Snow Rating: This entire area is rated as a moderate average-annual snowfall area.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is for National Forest land only and is derived from analysis of deer habitat characteristics and average winter weather conditions. Habitat capability for non-National Forest land has not been calculated at this time.

Wildlife Analysis Area	1988 Capability
4222	2412
4252	1930
4253	943
4256	860

Deer Population Status

Because of mild winters, deer populations have been high in this area. The winters of 1988-89 and 1989-90 were more severe than the average for the decade and populations may have declined slightly.

Human Use

Hunter Residency: This area is used by hunters from Hoonah, Juneau, Skagway, Excursion Inlet, Gustavus, Haines, Elfin Cove, Game Creek, and Whitestone and Eight Fathom Bight logging camps on a regular basis. Hunters from Klawock, Petersburg, Ketchikan, Craig, Kake, Yakutat, and Pelican have also reported using the area.

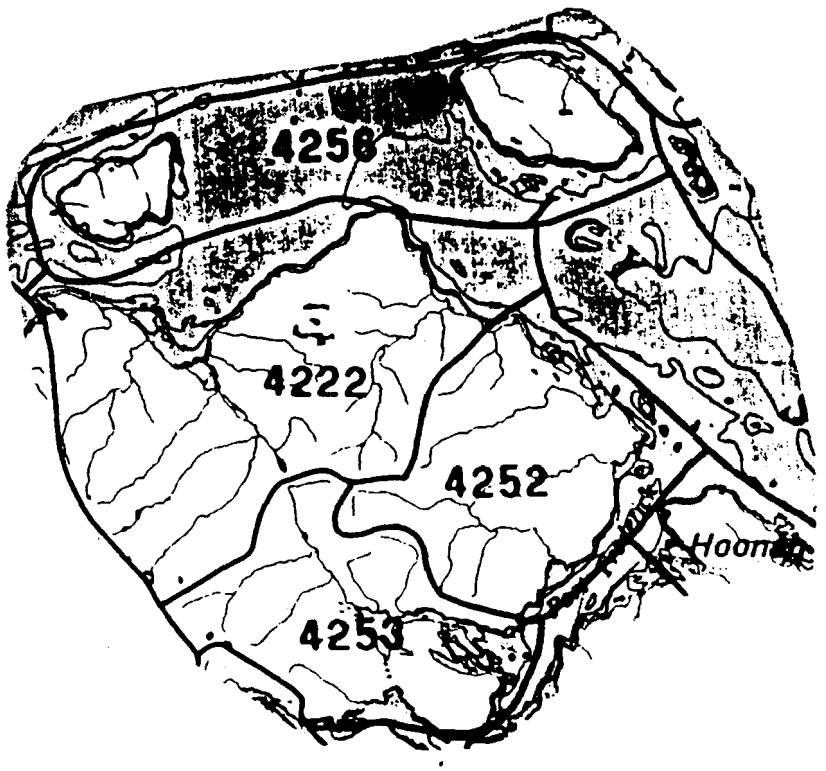
Access: An extensive logging road network has contributed to its popularity. Eight Fathom Bight logging camp is located in this area.

Demand: Hunter demand exceeds modeled long-term habitat capability in all WAA's except 4222. Mild winters have enabled deer populations to increase to levels well above apparent habitat capability throughout the 1980's allowing harvest to approach demand. As more-severe winters reduce deer populations to levels near long-term habitat capability, the ability of this area to provide for hunters' demands will decrease. Bag limits and/or seasons may have to be reduced. Nonsubsistence hunters may lose hunting opportunity. Hunters may be forced to seek deer in other locations. In most surrounding areas, however, demand also exceeds habitat capability so hunters may have to go far afield to find hunting opportunities.

WAA	Hunter Demand	Minimum Deer Needed
4222	216	2160
4252	439	4390
4253	155	1550
4256	164	1640

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them.

ICY STRAIT PLANNING AREA



Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

The population objective for WAA 4222 allows for some decrease in average long-term deer numbers to accommodate logging. However, the objective has been set high enough to meet demand. Population objectives in the other WAA's reflect the high hunter demand and the need to limit all future habitat loss to provide deer for that demand.

WAA	Population Objective
4222	2200
4252	1930
4253	943
4256	860

Harvest Statistics — Icy Strait

Originally this area was part of the Northeast Chichagof planning area. Major changes to Wildlife Analysis Area boundaries occurred between 1987 and 1988, slightly reducing the size of WAA 4222, creating new WAA's 4252 and 4253, and establishing a separate Icy Strait planning area. Because prior to the changes all harvest statistics were reported with those of the Northeast Chichagof area, it is not possible to accurately separate totals for the Icy Strait area. So, no totals have been given for the Icy Strait area prior to 1987. Because figures for only two WAA's are available, no totals were computed for 1987. Harvest statistics for 1980-86 for the Northeast Chichagof Island planning area include statistics from Icy Strait areas.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
4222							137	79	127
4252								171	196
4253								96	98
4256							66	70	80
Total								353*	427

*Note: Totals for number of hunters are typically less than sum of hunters for WAA's because many hunters hunt in more than one WAA each year. Total for 1988 is an estimate because reported totals were included in Northeast Chichagof planning area. The estimates are based on percentage of hunters who hunted in more than one WAA in the Icy Strait area in 1989.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
4222							1129	180	401
4252								686	491
4253								161	232
4256							356	194	234
Total								1221	1358

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
4222							284	156	258
4252								316	375
4253								118	201
4256							120	106	104
Total								696	938

NORTHERN ADMIRALTY ISLAND

Wildlife Analysis Areas 3835, 3836, 3837

Habitat Characteristics

Quality and Condition: Habitat quality on the extreme northern part of the Mansfield Peninsula is poor. Quality improves from Funter Bay south. The Greens Creek drainage in the northern half of WAA 3837 is in the Admiralty Island National Monument but is nonwilderness. Greens Creek mine is located there, but little habitat beyond the mine site has been affected by the development. The southern half of WAA 3837 is part of Admiralty Wilderness. The eastern part of WAA 3836 in the Young's Lake area has been designated wilderness by Congress. The non-wilderness area is vulnerable to logging with the area from Hawk Inlet to Funter Bay most likely to be cut.

Snow Rating: Most of the area receives moderate annual snowfall area except for the northwest half of WAA 3837 which receives deep snows on average.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions.

Wildlife Analysis Area	1988 Capability
3835	1195
3836	2081
3837	1335

Deer Population Status

Deer populations and densities are moderate on northern Admiralty Island. Populations may be declining somewhat after reaching a peak about 1987.

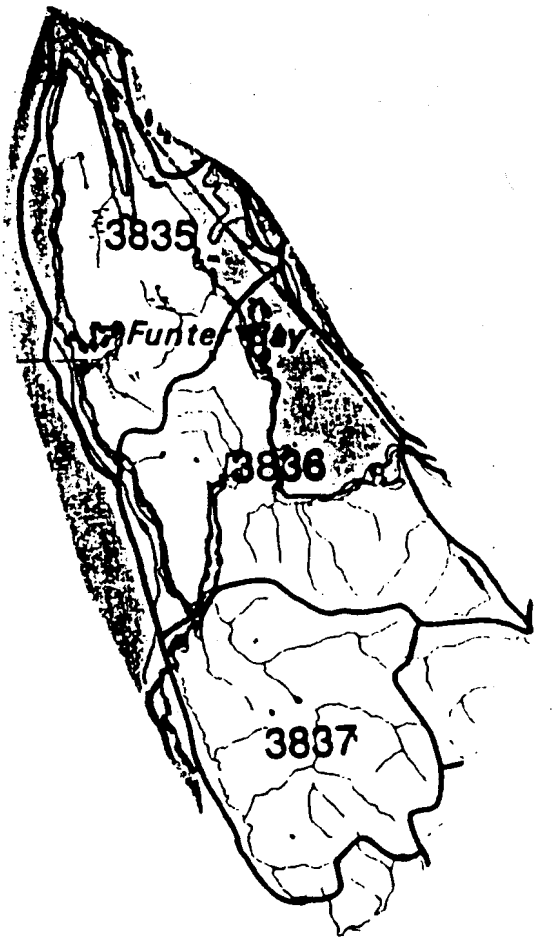
Human Use

Hunter Residency: This area includes the community of Funter Bay and the Green's Creek mining camp in Hawk Inlet. The mine prohibits hunting by employees in the mine area. Hunting is primarily by residents of Funter Bay and Juneau. Since 1984, residents of Ketchikan, Yakutat, Elfin Cove, Haines, Hawk Inlet, Petersburg, Cube Cove logging camp, Sitka, and Hoonah have also reported hunting in this area. In terms of percentage of hunters using the area and total deer kill, Northern Admiralty is the second most important area for Juneau hunters. WAA 3837, the farthest from Juneau attracts the least effort. Better deer habitat and numbers have made WAA 3836 the most popular with hunters in recent years.

Access: Access is by boat for Juneau residents or by walking for Funter Bay residents. During good weather, Stephens Passage is easily negotiated in a skiff.

Demand: Demand exceeds habitat capability in WAA's 3835 and 3836. Mild winters have enabled deer populations to increase to levels well above apparent habitat capability throughout the 1980's allowing harvest to approach demand. As more-severe winters reduce deer populations to levels near long-term habitat capability, the ability of this area to meet hunters' demands will decrease. Bag limits and/or seasons may have to be reduced. Nonsubsistence hunters may lose hunting opportunity. Hunters may be forced to seek deer in other locations. In most surrounding areas, however, demand also exceeds habitat capability so hunters may have to go far afield to find hunting opportunities. Loss of habitat in this area will exacerbate the problem. Nonhunting demand is likely to increase as more nonconsumptive users are attracted to the wilderness areas.

NORTHERN ADMIRALTY ISLAND PLANNING AREA



WAA	Hunter Demand	Minimum Deer Needed
3835	612	6120
3836	667	6670
3837	55	550

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives:

Population objectives reflect the high hunter demand in WAA's 3835 and 3836 relative to the habitat capability, and the necessity to preserve habitat to maintain populations to provide for the demand. The objective for WAA 3837 has also been set equal to habitat capability to maintain options for hunters in the area and because most of it is designated wilderness.

WAA	Population Objective
3835	1195
3836	2081
3837	1335

Harvest Statistics — Northern Admiralty
Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3835							472	320	344
3836							457	435	423
3837							56	63	51
Total	430	570	685	680	823	765	839	729	728

Note: Totals for number of hunters are typically less than the sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3835							1815	882	906
3836							1719	1241	1403
3837							198	226	196
Total	1860	2120	2275	2380	2834	2739	3732	2349	2505

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3835							435	286	227
3836							478	390	334
3837							39	63	114
Total	390	360	510	650	921	673	952	739	675

SOUTHEASTERN ADMIRALTY ISLAND

Wildlife Analysis Areas 3938, 3939, 3940

Habitat Characteristics

Quality and Condition: The area has excellent habitat with many protected bays and anchorages for boat access. It is unroaded and part of the Admiralty Island Wilderness. Of the three WAA's in the planning area, WAA 3939 (Pybus Bay) has the best quality habitat.

Snow Rating: The entire area is in a moderate average-annual snowfall zone.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions.

Wildlife Analysis Area	1988 Capability
3938	2705
3939	3116
3940	2847

Deer Population Status

This area has very high densities of deer. The population appears to be stable.

Human Use

Hunter Residency: Southeast Admiralty Island is heavily hunted by residents of Petersburg and Kake, and is by far the most important hunting area in terms of numbers of hunters and deer killed for those communities. Hunters from Haines, Juneau, Sitka, Wrangell, Angoon, and Hobart Bay logging camp also regularly use this area.

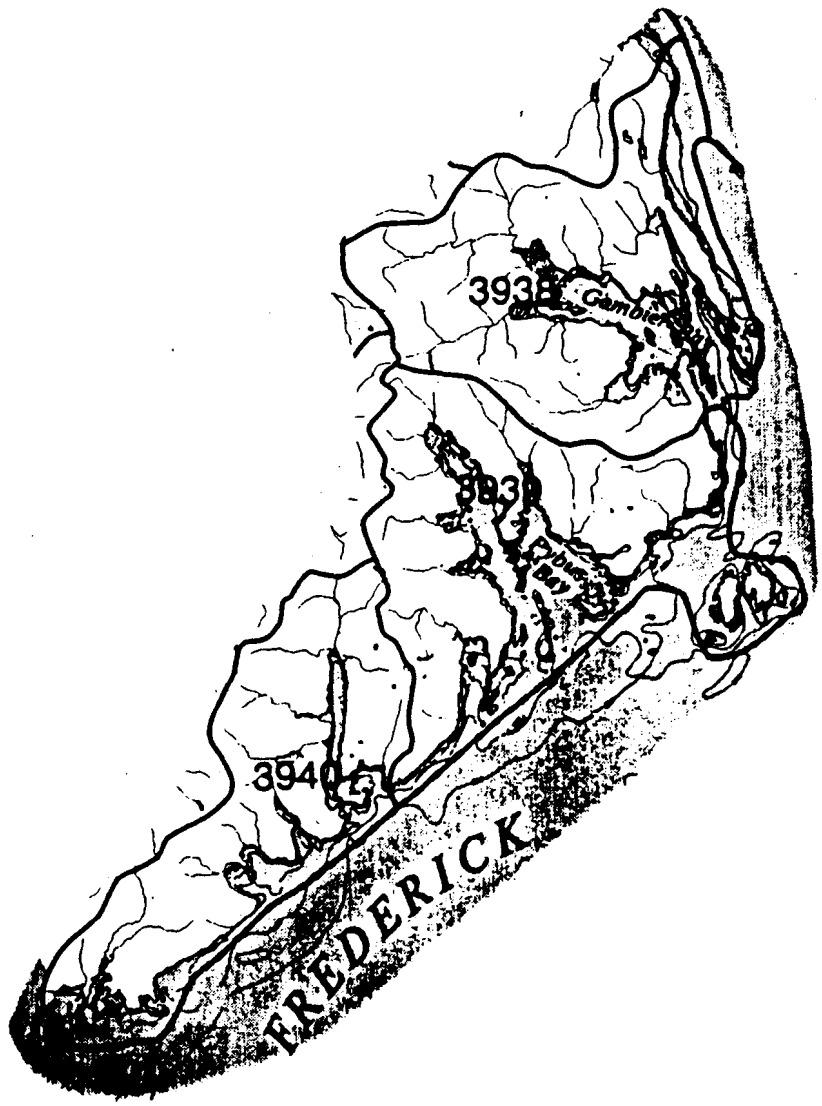
Access: The area is reached by float plane or boat. During good weather skiffs can be used to access the area from Kake or Hobart Bay. It is popular with commercial fishermen from Petersburg who utilize large fishing vessels to reach the area. A Forest Service cabin near Donkey Bay and another in Gambier Bay attract hunters who charter float planes to reach the site. There are fishing lodges located in Tyee and Pybus Bay, but they do not cater to hunters as yet.

Demand: Despite good deer populations (or perhaps because of them), demand exceeds long-term habitat capability in all WAA's. Mild winters have enabled deer populations to increase to levels well above apparent habitat capability throughout the 1980's allowing harvest to approach demand. As more-severe winters reduce deer populations to levels near long-term habitat capability, the ability of this area to meet hunters' demands will decrease. Bag limits and/or seasons may have to be reduced. Nonsubsistence hunters may lose hunting opportunity. Hunters may be forced to seek deer in other locations. In most surrounding areas, however, demand also exceeds habitat capability so hunters may have to go far afield to find hunting opportunities. Nonhunting use is likely to increase with growing interest in wilderness areas.

WAA	Hunter Demand	Minimum Deer Needed
3938	376	3760
3939	518	5180
3940	289	2890

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

SOUTHEASTERN ADMIRALTY ISLAND PLANNING AREA



Population Objectives:
Population objectives reflect the importance of the area to hunters, the high demand for deer relative to the habitat capability, and the need to maintain habitat to provide for that demand. Objectives also reflect a desire to provide reliable nonhunting encounters throughout the planning area.

WAA	Population Objective
3938	2705
3939	3116
3940	2847

Harvest Statistics — Southeastern Admiralty
Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3938							203	185	199
3939							216	221	174
3940							149	100	98
Total	210	460	515	430	409	535	464	469	421

Note: Totals for number of hunters are typically less than the sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3938							666	856	844
3939							1020	936	724
3940							380	298	346
Total	960	2260	2460	1800	1832	2314	2066	2090	1915

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
3938							263	316	238
3939							405	427	346
3940							225	204	157
Total	275	580	850	680	788	772	893	947	741

WESTERN ADMIRALTY ISLAND

Wildlife Analysis Areas 4041, 4042, 4043, 4044, 4054, 4055

Habitat Characteristics

Quality and Condition: Most of this area is part of the Admiralty Island Wilderness. There are large private holdings in WAA 4044, in WAA 4042 around the village of Angoon, and in WAA 4055 in portions of Hood Bay. Extensive logging has occurred in WAA 4044 on native lands. It is expected that almost all deer habitat on private lands in WAA 4044 will eventually be eliminated. Within the past 30 years large clearcuts were made on Forest Service lands at the head of Whitewater Bay in WAA 4041.

Snow Rating: The eastern portion of WAA 4043 in the mountains of central Admiralty Island is rated as a deep average-annual snowfall zone. The rest of the planning area receives moderate average-annual snowfall.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is for National Forest land only and is derived from analysis of deer habitat characteristics and average winter weather conditions. Habitat capability for non-National Forest land has not been calculated at this time.

Wildlife Analysis Area	1988 Capability
4041	2412
4042	3370
4043	2255
4044	3008
4054	2529
4055	2959

Deer Population Status

Deer populations and densities are moderate to high. They appear to have declined slightly from a peak in 1987.

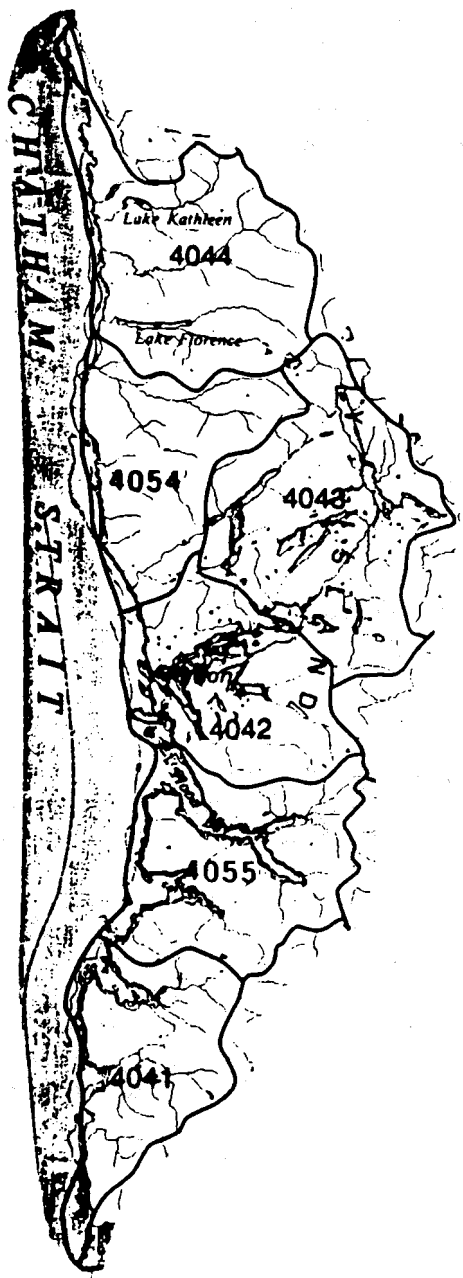
Human Use

Hunter Residency: Angoon and Cube Cove logging camp are located in this area. It is the main hunting area for Angoon. Hunters from Kake, Juneau, Petersburg and Cube Cove also regularly use the area. Since 1984, residents of Sitka, Wrangell, Ketchikan, Funter Bay, Haines, and Skagway have also reported hunting this area occasionally.

Access: Road access from Cube Cove accounts for high hunter use of WAA 4044. Float plane access to the lake system of WAA 4043 accounts for the high annual kill there by Juneau residents. Elsewhere, proximity to Angoon and good anchorages for boat access mean higher hunter use of WAAs 4042 and 4055. WAA 4054 with poor boat anchorages receives the least use.

Demand: Hunter demand exceeds long-term habitat capability in WAA 4053. Hunter use throughout the Western Admiralty planning area is expected to increase in the future as hunters seek alternatives to areas with declining deer populations. Areas with the best access for hunters are in the southern portion of the planning area and are relatively remote from large communities like Juneau, Sitka, and Petersburg. Nonhunting use of the area is also likely to increase with growing public interest in wilderness areas.

WESTERN ADMIRALTY ISLAND PLANNING AREA



WAA	Hunter Demand	Minimum Deer Needed
4041	24	240
4042	161	1610
4043	229	2290
4044	150	1500
4054	115	1150
4055	147	1470

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

Population objectives have been set equal to habitat capability in all WAA's because they are wilderness areas and because habitat should be maintained to provide options for hunters and to provide reliable nonhunting encounters for increasing numbers of nonconsumptive users.

WAA	Population Objective
4041	2412
4042	3370
4043	2255
4044	3008
4054	2529
4055	2959

Harvest Statistics — Western Admiralty

Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987. Also, two changes to Wildlife Analysis Area boundaries occurred between 1987 and 1988. First, the northern portion of WAA 4041 (Hood and Chaik Bay watersheds) was made into a separate WAA 4055. Also, WAA 4042 was split into two areas. Its northern portion is now WAA 4054. For that reason, statistics from those WAA's for 1987 are not comparable to those of subsequent years. Totals of all WAA's are comparable, however, from 1980 through 1989.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
4041							121	20	24
4042							108	73	51
4043							114	82	38
4044							105	89	107
4054								32	8
4055								60	55
Total	250	250	425	490	382	439	366	315	240

Note: Totals for number of hunters are typically less than the sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
4041							530	45	43
4042							497	258	136
4043							416	257	172
4044							347	259	443
4054								66	8
4055								370	96
Total	1140	1190	2360	2890	1397	1568	1791	1255	899

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
4041							281	27	43
4042							295	135	79
4043							160	91	42
4044							107	111	199
4054								82	12
4055								116	75
Total	325	340	500	740	584	520	843	562	448

SEYMOUR CANAL

Wildlife Analysis Areas 4145, 4146, 4147, 4148, 4149, 4150

Habitat Characteristics

Quality and Condition: Habitat is generally good. Most of this planning area is within the Admiralty National Monument and is designated wilderness. A small, private holding, exists at Mole Harbor. The area between the head of Seymour Canal and Oliver Inlet is a state recreational area, with a state cabin. Logging has occurred a few decades ago at Winning Cove in WAA 4148. Now that that area is wilderness, the habitat should eventually recover.

Snow Rating: Most of the western shore of Seymour Canal receives deep snowfall on average. The shore between Windfall Harbor and Mole Harbor in WAA 4145, the Glass Peninsula (WAA's 4148 and 4149), and the Stephens Passage shore of WAA 4150 are all rated as moderate average-annual snowfall zones.

Capability: Habitat capability is given in terms of numbers of deer. It is a measure of the long-term potential of an area to support deer. Habitat capability is derived from analysis of deer habitat characteristics and average winter weather conditions.

Wildlife Analysis Area	1988 Capability
4145	1063
4146	1185
4147	1088
4148	1860
4149	1378
4150	1010

Deer Population Status

Deer populations are thought to be moderate.

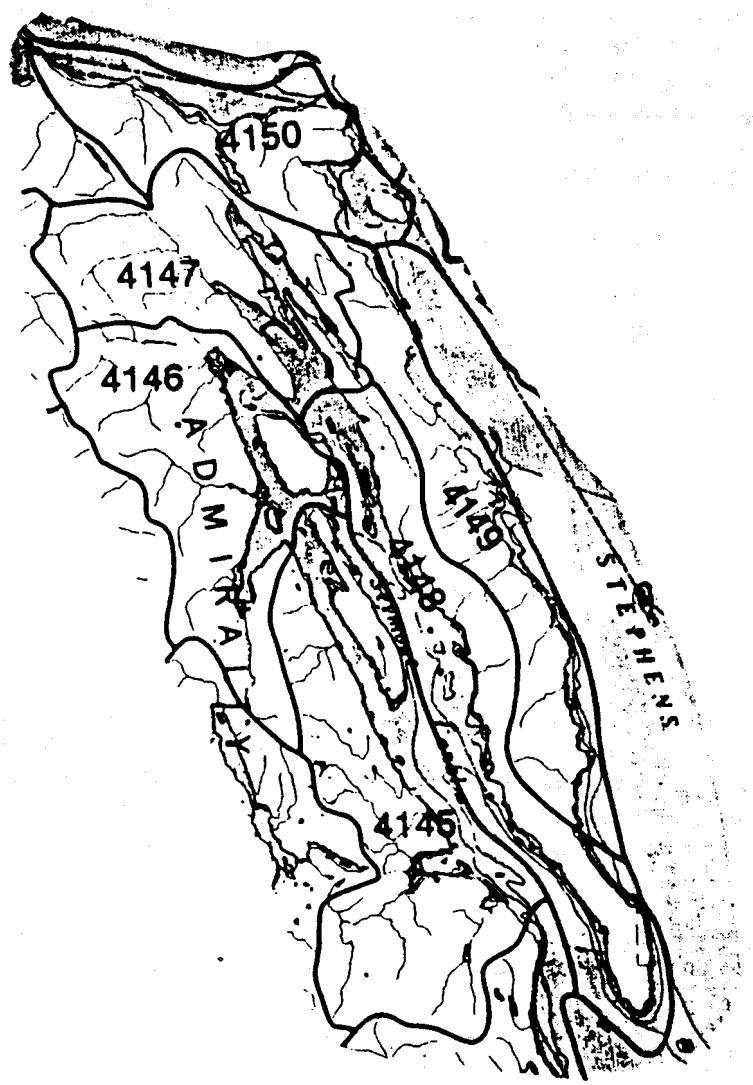
Human Use

Hunter Residency: The Seymour Canal and northeast Admiralty coast area is heavily used by Juneau hunters. Slightly more than 20% of the Juneau hunting effort in terms of number of hunters is expended in this area. About half the Juneau effort is focused in WAA 4150, but many hunters also use WAA 4148. Juneau hunters are the heaviest users of this area, but since 1984 residents of Petersburg, Kake, Haines, Wrangell, Hobart Bay and Rowan Bay logging camps, Gustavus, Ketchikan, Sitka, and Yakutat have also reported hunting Seymour.

Access: Access to the Admiralty coast by small boats from Juneau is good during calm weather. The portion of Glass Peninsula adjacent to Stephens Passage has few anchorages and is exposed to southeastern winds. A tramway between Oliver Inlet and Seymour Canal allows hunters to transport their skiffs to Seymour Canal. A Forest Service primitive shelter is located in Windfall Harbor and another in Mole Harbor.

Demand: Demand exceeds long-term habitat capability in all WAA's. Mild winters have enabled deer populations to increase to levels well above apparent habitat capability throughout the 1980's allowing harvest to approach demand. As more-severe winters reduce deer populations to levels near long-term habitat capability, the ability of this area to meet hunters' demands will decrease. Bag limits and/or seasons may have to be reduced. Nonsubsistence hunters may lose hunting opportunity. Hunters may be forced to seek deer in other locations. In most surrounding areas, however, demand also exceeds habitat capability so hunters may have to go far afield to find hunting opportunities. Nonhunting use is likely to increase with growing interest in wilderness areas and the popularity of the Pack Creek brown bear viewing area which is attracting more wildlife watchers to Seymour Canal.

SEYMOUR CANAL PLANNING AREA



WAA	Hunter Demand	Minimum Deer Needed
4145	199	1990
4146	322	3220
4147	188	1880
4148	175	1750
4149	209	2090
4150	586	5860

Note: Hunter demand is based on the results of a 1987 Division of Wildlife Conservation survey of southeast Alaska deer hunters. Hunters were asked to describe how many deer would satisfy them. Minimum deer needed is 10 times that demand and is the number needed to support that demand indefinitely based on a sustainable annual harvest rate of 10%.

Population Objectives

Population objectives have been set equal to habitat capability in all WAA's because they are wilderness areas and because habitat should be maintained to provide for high hunter demand and growing non-consumptive use in all WAA's.

WAA	Population Objective
4145	1063
4146	1185
4147	1088
4148	1860
4149	1378
4150	1010

Harvest Statistics --- Seymour Canal

Breakout of harvest statistics by Wildlife Analysis Areas was not available before 1987. Also, two changes to Wildlife Analysis Area boundaries occurred between 1987 and 1988. First, WAA 4147 was split into two WAA's. Its northern section which drains into Stephens Passage became WAA 4150. Second, WAA 4148 (Glass Peninsula) was also split. The eastern drainages into Stephens Passage became WAA 4149. For that reason, statistics from those WAA's for 1987 are not comparable to those of subsequent years. Totals of all WAA's are comparable, however, from 1980 through 1989.

Number of Hunters

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
4145							97	82	94
4146							127	97	45
4147							713	93	110
4148							245	68	142
4149								140	133
4150								430	345
Total	550	730	880	860	970	983	1085	797	715

Note: Totals for number of hunters are typically less than the sum of hunters for WAA's because many hunters hunt in more than one WAA each year.

Number of Hunter Days

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
4145							554	408	441
4146							451	912	191
4147							2484	516	396
4148							836	261	678
4149								443	430
4150								1100	855
Total	2440	2970	3765	3110	3568	3304	4326	3640	2990

Number of Deer Harvested

WAA	1980	1982	1983	1984	1985	1986	1987	1988	1989
4145							146	100	189
4146							239	135	75
4147							595	125	170
4148							311	112	264
4149								141	206
4150								391	291
Total	560	570	920	950	1260	1063	1293	1004	1195

BIBLIOGRAPHY

Burris, O.E. and D.E. McKnight. 1973. Game Transplants in Alaska. Wildlife Technical Bulletin No. 4. ADF&G Juneau, Ak. 57 pp.

Cohen, K.A. 1989. Wrangell Harvest Study: A comprehensive study of wild resource harvest and use by Wrangell residents. Technical Paper No. 165. ADF&G, Division of Subsistence. Juneau, Ak. 150 pp.

Doerr, J.G., and M.J. Sigman. 1986. Human use of Pacific herring, shellfish, and selected wildlife species in southeast Alaska with an overview of access for noncommercial harvests of fish and wildlife. Technical Report 86-5. ADF&G Division of Habitat. Juneau, Ak. 210 pp.

Firman, A.S., and R.G. Bosworth. 1990. Harvest and Use of Fish and Wildlife by Residents of Kake, Alaska. Technical Paper No. 145. ADF&G Division of Subsistence. Juneau, Ak. 162 pp.

Flynn, R.W. and L.H. Suring. 1989. Harvest rates of Sitka black-tailed deer populations in southeast Alaska for land-use planning. unpubl. rept. ADF&G Division of Wildlife Conservation, USDA Forest Service, Alaska Region. Juneau, Ak. 9 pp.

Kirchhoff, M.D. and K.W. Pitcher. 1988. Deer Pellet Group Surveys in Southeast Alaska, 1981-1987. ADF&G, Fed. Aid in Wildl. Rest., Proj. W-22-6, Job 2.9, Obj. 1. Final Rept. Juneau, Ak. 113 pp.

Kirchhoff, M.J. and M.D. Kirchhoff. 1988. 1988 Report: Deer Pellet-Group Surveys in Southeast Alaska. ADF&G Division of Wildlife Conservation. Douglas, Ak. 300 pp.

_____. 1989. 1989 Report: Deer Pellet-Group Surveys in Southeast Alaska. ADF&G Division of Wildlife Conservation. Douglas, Ak. 30 pp.

Merriam, H.R. 1966. Relationships between deer and wolves on Coronation Island, southeast Alaska. Presentation at Northwest Section of the Wildlife Society. La Grande, Or.

_____. 1970. Deer fluctuations in Alaska. Presentation at Northwest Section of the Wildlife Society. Spokane, Wa. Mimeo. 5 pp.

Olson, S.T. 1979. The life and times of the black-tailed deer in southeast Alaska. Pages 160-168 in O.C. Wallmo and J.W. Schoen, eds. Sitka black-tailed deer. USDA For. Serv., Alaska Region. Ser. No. R10-48. Juneau, Ak. 230 pp.

Sigman, M.J. ed. 1985. Impacts of Clearcut Logging on the Fish and Wildlife Resources of Southeast Alaska. Technical Report 85-3. ADF&G Division of Habitat. Juneau, Ak. 90 pp.

Smith, C.A., E.L. Young, C.R. Land, and K.P. Bovee. 1986. Effects of predation on black-tailed deer population growth. ADF&G, Fed. Aid in Wildl. Rest. Prog. Rep. Proj. W-22-4. Job 14.13. Juneau.

Smythe, C.W. 1988. Harvest and Use of Fish and Wildlife Resources by Residents of Petersburg, Alaska. Technical Paper No. 164. ADF&G Division of Subsistence. Juneau, Ak. 152 pp.

Wallmo, O.C. and J.W. Schoen eds. 1979. Sitka Black-tailed Deer: Proceedings of a Conference in Juneau, Alaska. USDA Forest Service, Alaska Region. Ser. No. R10-48. Juneau, Ak. 230 pp.

Appendices

APPENDIX A

Sitka Black-tailed Deer Management Policies

from

ADF&G Species Management Policies (1980)

SITKA BLACK-TAILED DEER MANAGEMENT POLICIES

Species Background

Sitka black-tailed deer (Odocoileus hemionus sitkensis) are found in varying abundance throughout most of southeastern Alaska from Dixon Entrance north to Yakutat Bay and along the Gulf of Alaska from the Copper River west to Cape Fairfield, including Prince William Sound, and on the Kodiak-Afognak Island group. Deer are indigenous to the mainland and islands of the Alexander Archipelago; their presence on more northerly and westerly ranges is a result of transplants conducted between 1916 and 1952.

Alaskan deer populations have historically fluctuated in response to winter weather severity. Islands in southeastern Alaska where winter conditions are most severe, and where wolves are present, have had the greatest extremes in deer numbers. Deer have been most abundant on the islands of the Alexander Archipelago and on the mainland south of Ernest Sound. Some deer are usually present along the entire mainland north of Ernest Sound, but populations there have never been high. In Prince William Sound the greatest deer densities occur on Hawkins, Hinchinbrook and Montague Islands, whereas relatively few deer are found on the mainland. Deer in the Sound have been at fairly low numbers since the last major die-off occurred in the early 1970's, but they have shown signs of a gradual increase in recent years. Kodiak-Afognak deer populations are increasing in areas of range expansion but have declined in some areas where they have been long established.

During different seasons of the year deer utilize a variety of habitat types. However, uneven-aged old-growth forest is utilized extensively throughout the year. Generally the home ranges of most deer are relatively small, probably from 2 to 4 square miles. During snow-free periods deer are distributed from sea level to above timberline. When snow is present, deer range as high as they are capable, but they are usually forced out of higher areas by deep snows. During much of the year lowgrowing forbs are the most important plant species used. These are particularly abundant in alpine habitat during summer and, where alpine terrain is available, summer food is never a limiting factor. During winter, deer continue to utilize forbs when available under forest cover, but when about six inches of snow covers these species, deer begin using woody plants. Most species of available shrubs may be used to some extent during critical winter months, but huckleberry appears most important. Tips of cedar, spruce, and hemlock trees are also used, but these provide barely a maintenance diet. When snow depth under timber cover exceeds 18 to 24 inches, deer begin to concentrate on the open beaches, utilizing dead beach grass, sedges or kelp. These plant species will not maintain basic metabolism for extended periods and winter mortality begins.

Clearcut logging has had more impact on deer habitat in Alaska than any other human factor. Until recently in southeastern Alaska, many cuts exceeded 1,000 acres in size. These openings in the forest produce a great amount of summer forage for 5 to 10 years, but in winter snow covers the vegetation and it becomes unavailable to deer. In 15 to 20 years following cutting, coniferous regrowth forms a closed canopy and most deer forage species are shaded out. The forest floor becomes devoid of vegetation except for mosses and lichens, and it may be 200 years or more before sufficient vegetation is again available in natural openings to support moderate deer populations. In the climax forest, small openings resulting from uneven-aged forest allow for growth of a variety of understory species. Recently there has been a trend toward smaller cuts which result in greater interspersion of vegetation types ("edge effect") and uneven-age forest stands. Although an improvement over the large cuts, the result is still a reduction of deer habitat. In areas of extensive logging deer populations have been reduced and will not recover to previous levels of abundance. Clear-cut logging has had minor effects upon deer habitat in Prince William Sound and Kodiak-Afognak Islands because most logging there has occurred in areas of minor importance to deer and has been in relatively small blocks.

Deer in Alaska are at the northern margin of their range in North America and are more susceptible to slight changes in habitat and climatic conditions than populations to the south. Winter accumulation of snow creates critical survival conditions in many years. Deep snows render much otherwise available food inaccessible. In severe winters deer populations may be greatly reduced.

Wolf predation is an important cause of mortality for some deer populations. Predation has had its greatest impact on deer populations decimated by malnutrition, often further depressing deer numbers, and retarding recovery of reduced deer populations for prolonged periods. Since the last extreme winter of 1968-1969 in southeastern Alaska south of Frederick Sound, deer populations on islands inhabited by wolves have remained at low densities while populations on islands north of Frederick Sound, which had similar or perhaps more severe winter conditions but no wolves, have recovered to moderately high densities.

Other natural mortality factors may cause or contribute to significant losses of deer, but few such occurrences have been documented. Throughout their range in Alaska, deer have been the most important big game species providing meat for the larder. Most deer hunters are residents of Alaska. Hunter success in most areas has been good with usually more than half of the hunters taking at least one deer. The annual kill has fluctuated between 6,000 and 15,000 deer. Generally harvests, including either-sex hunts, have not

significantly affected deer numbers. Seasons and bag limits have at times been curtailed when deer populations in specific areas were low, but these low densities were usually caused by factors other than hunting. Given favorable weather conditions and reasonable levels of predation, deer populations have historically increased in spite of hunting pressure. With protection of sufficient winter habitat and management of predation, deer populations should be more than adequate for public use in the foreseeable future.

Species and Habitat Management Policies

1. The Department recognizes that responsible deer management must be based on scientific knowledge. An active Department program will be maintained to increase knowledge of the population status and the biological and ecological requirements of deer. When others conduct research on deer within Alaska, the Department will request a description of proposed studies and make recommendations in the best interest of the species and the public. The Department will cooperate with other agencies or individuals whose research may provide useful information on deer. Occasionally research may require temporary limitations on public use of study populations.

2. Maintenance of suitable habitat is of foremost importance in deer management. Canopy interception of snow and the presence of understory vegetation in climax spruce-hemlock forest are essential for deer over most of their winter range in Alaska. Climax forest at low elevations is critically important to deer survival when snow accumulation at higher elevations makes food unavailable. Timber managers will be encouraged to retain climax forests in critical deer winter range areas and to plan size and layout of clearcuts on other important deer ranges to maintain the capability of such areas to support deer populations.

3. Transplanting deer for restocking former ranges or stocking vacant habitat can be a useful management tool. However, because transplants often have unforeseen detrimental effects, introductions of deer will generally be opposed. Transplants of deer may be approved if substantial resource or public benefit can be shown. Proposed transplants must meet the following minimum requirements to be approved: 1) the proposed transplant site must provide sufficient and suitable habitat to support a viable population of deer as determined by comprehensive study; 2) prior study must establish that the introduction of deer will not adversely affect the numbers, health, or utilization of resident species; 3) protection of the proposed transplant population from incompatible land uses must be assured; and 4) future public use of the resource must be guaranteed.

4. Situations may arise requiring control of deer. Controls will be implemented only after an investigation by Department personnel has determined a valid need exists. It is the owner's responsibility to protect his property from damage by deer. Reasonable efforts must be made to protect property by means other than the destruction of deer. When control by removal of deer is necessary,

humane methods will be used and meat will be salvaged. Whenever appropriate, control of deer will be accomplished by recreational hunting.

5. Deer will be managed to provide sustained yields of animals for various human uses and for wild carnivore populations that depend upon them for food. When the use of deer by predators and by humans exceeds the capabilities of the deer population to sustain those uses, the deer and predator populations may be managed, and the use by humans regulated, to bring the use and capabilities into balance. In no case will the predator population be eliminated in favor of human users.

Species Use Management Policies

1. The Department recognizes the Constitutional mandate of the State of Alaska to manage deer on the sustained yield principle for the benefit of the resource and the people of the state, and also recognizes that national interests must be considered. There are many beneficial uses of deer. Present use priorities may not be the priorities of the future, and deer management must continue to consider all uses.

2. Deer are an important food resource for some Alaskans. In areas where residents have a subsistence dependency on deer, allocation of allowable deer harvests will give first priority to subsistence users. Obtaining meat is also an important consideration of recreational hunting. This use will be encouraged where it will not conflict with subsistence use of deer. Salvaging of all edible meat will remain a condition of taking deer. In areas with intensive hunter use, harvests will be regulated to provide the optimum yield of animals. Management techniques may include, but are not limited to, harvest of deer of all sexes and ages, liberal seasons and bag limits and access improvement.

3. In many areas of the state, recreation is the most important use of deer. Recreational uses include: sport hunting in its various forms; observation and photography, both incidental to other activities and as the primary objectives; and wilderness experience, including the aesthetic rewards of being aware of or observing deer in natural interactions with their environment. These uses are held to be generally compatible. Management of deer will seek to provide maximum opportunities for all these recreational uses where not in substantial conflict with subsistence use of deer.

4. Certain areas of the state will be managed to provide deer hunting opportunities of the highest aesthetic quality. This concept recognizes the value of the opportunity to be selective in hunting, to enjoy uncrowded hunting conditions, to make use of undeveloped areas, and to enjoy various other experiences which enhance wildlife-oriented activities. Management techniques may include, but are not limited to, regulation of access, control of the number and distribution of hunters, regulation of sex and antler size and conformation of animals taken, and population manipulation.

5. Recreational observation and photography of deer will be encouraged through public information and education. Although hunting is generally considered compatible with recreational observation of deer, certain areas exceptionally suited to viewing deer may be zoned in time or space to restrict other uses in favor of observation of deer.

6. The commercial harvesting of deer for the sale of animal products will be opposed. The domestication of deer is not considered a wise use of the resource and will be discouraged.

7. Permits may be issued for capturing, holding, importing and exporting deer for stocking, rehabilitation, public education and scientific study, but only after demonstration that suitable habitat or holding facilities are available to the permittee. Permits will not be issued unless substantial benefits which are consistent with the Department's goals and policies can be demonstrated.

8. The Department will plan for access to improve opportunities for use of deer. In areas where deer are managed for optimum sustained yield and/or the maximum recreational opportunity, access may take the form of roads, airstrips, hiking or horse trails, boat landings, and shelters. Information about access may be disseminated. In areas managed primarily for aesthetic use conditions, access may be restricted to some or all of those nonmotorized means listed above. Seasonal time and area zoning may allow for incompatible uses of the resource, however, and will be encouraged.

Problems

* Clearcut logging of large areas in Alaska is detrimental to deer populations because it results in long-term losses of deer habitat. Smaller clear cut units which reduce detrimental effects or alternative

cutting methods such as selective cutting which maintain favorable deer habitat should be employed, and some areas of climax forest should be retained. Recognition of wildlife values in land use management is necessary. Since most deer habitat in Alaska is administered by the U.S. Forest Service, it is incumbent on that agency to pursue compatibility of resource values in its management of multiple uses of the public land. It is essential that the Department of Fish and Game and the U.S. Forest Service coordinate land use plans to assure maintenance or enhancement of wildlife habitats to ensure that future needs of the wildlife resource and of public use are met.

* Wolves in southeastern Alaska exert a strong depressant effect on some deer populations already reduced by severe winter conditions, retarding the recovery of deer populations from low levels of abundance. Management of wolf populations to reduce predation on depressed deer populations is very difficult because Federal and State statutes and regulations limit allowable methods of control and the dense vegetative cover limits the effectiveness of permitted methods. In addition, efforts to manage wolf numbers are invariably controversial, sometimes resulting in a political climate under which any management action is difficult. Yet predator and prey populations alike require management if both are to benefit and the values of both are to be realized by man.

APPENDIX B

Summary of 1987-88 Deer Hunter Survey

MEMORANDUM

STATE OF ALASKA
DEPARTMENT OF FISH AND GAME

To: Rod Flynn and
Matt Kirchhoff,
Game Biologists
Region 1, Douglas

Date: 18 November 1988

From: Tom Paul, Tech III
Region 1, Douglas

Subject: Summary of Part III
of 1987-88 SE deer
hunter questionnaire

Here at last is the summary you've been eagerly awaiting; major ingredients of the "black box" for the deer management plans. Besides summarizing the results of Part III of the 1987-88 deer hunter mail survey questionnaire, I have also described methods used in analysis for the more involved questions, particularly question 10.

There were 2543 responses to Part III of the questionnaire.

A total of 2384 responses came from residents of SE Alaska.

Only the SE Alaska residents' responses were tallied in this summary.

Q7a. What is the bag limit in the area you hunt?

92% (2193) responded.

45.3%	of respondants said	6.
25.1	"	3.
17.0	"	4.
8.3	"	5.
2.1	"	2.
2.0	"	1.

Q7b. Can you harvest enough deer under this bag limit to meet your needs?

94.4% (2250) responded.

79.9% said yes.
8.8% said no.
5.7% were not sure.
5.6% no response.

In all cases where deer could be legally hunted, more than half of the respondants indicated the bag limit met their needs. That is not entirely unexpected because hunters are likely to hunt where they can kill the number of deer they need.

Of those who said no, 35.6% (the largest percentage), usually hunted in areas where the bag limit is 3 deer. However, of all those hunting in 3 deer bag limit areas, only 13.3% said the bag limit did not meet their needs. As expected, where the bag limit was smallest the percentage of those not satisfied with the limit was greatest. Those hunting in a one deer bag limit area were most likely to answer no to the question (36.4% said the limit did not meet their needs). Those who said they hunted in a 5 or 6 deer bag limit area were least likely to say their needs were not met (4.4% and 6% respectively).

By communities, overall, a greater percentage of residents of the smaller rural communities are more likely to claim the bag limit does not meet their needs. For instance, although the largest number of those who claimed a 6 deer bag limit was not enough came from Juneau (24) and Sitka (17), that was only 6% and 5% respectively of hunters from those communities. On the other hand, 12% of Hoonah hunters (3) said a 6 deer bag limit was not enough to meet their needs.

The pattern is similar for those who hunt in areas with a 3 deer bag limit. Whereas the percentage of hunters from Ketchikan (11%) and Petersburg (14%) whose needs are not met by a 3 deer limit is similar to the 13.3% overall proportion, the percentage of those in smaller communities who say they need more than the bag limit is much higher. For Klawock it is 28.5%, for Whale Pass it is 33.3%, for Meyers Chuck it is 40%, for Edna Bay and Point Baker 20%, and for the mostly logging camp residents of places like Skowl Arm/Polk Inlet, Cholmondeley, or Tokeen the percentage of those who need more than the bag limit is 60% or higher.

Q7c. What is the number of deer you would like to harvest each year?

92.4% (2202) responded. 4.22 was the mean.

See attached sheet for frequencies and means by community.

Q8. If you were unable to harvest what you want, what might have allowed you to increase your harvest?

Multiple answers were allowed. 67.5% (1609) responded.

Of the respondents...

55.4% said "more time to hunt"
22.4% " "a longer hunting season"
22.3% " "more deer in the area I hunt"
21.9% " "easier access to hunting area"
18.7% " "less competition from other hunters"
16.4% " "a greater bag limit"
12.9% " "reduced costs of hunting"
15.8% " "other"

A total of 32.5% did not respond. It is assumed many of the non-respondents were those who harvested all they needed, and so, thought the question did not apply. The responses to this question indicate that at this time most hunters do not think regulations or a lack of deer are what limit their success. Rather, the factor they think most limits whether they harvest what they want is the personal time they can devote to hunting.

Q9. What do you consider to be a "good" chance of bagging a deer? Being able to harvest a deer every _____ days.

90.6% (2160) responded. 4.33 days was the mean for all respondents. However, there were many outliers which distorted this mean. When these outliers were dropped, the mean also dropped, to 2.23 days.

The mean <u>actual</u> hunter days per deer for the entire region was 3.66. So hunters are taking nearly a day and a half longer to get each deer than they would like. This argues for a greater density of deer than exists at present to reduce the effort needed for each kill. Ideally, this question should be analyzed on an area by area basis.

See attached sheet for frequencies and means for communities.

Q10. Which of the following best describes your idea of a successful deer season?

93.6% (2231) responded in some way to the question.

Analyzing answers to this question was more involved than any other question on the survey. Respondents often ignored the instruction to choose only one answer. In evaluating multiple answers, the most specific or the most demanding condition for success was the one selected. For instance, specific reponses to part (f) were taken as the key answer before any others. After that, whatever turned out to be the higher number of deer among remaining answers was used in determining the hunter's threshold for success. The answers were compiled by community for all hunters and averaged by community. The resulting mean was assumed to represent what hunters "would be satisfied with" in terms of an annual deer harvest.

The procedure for calculating that "satisfaction" factor was as follows. All hunters' responses were grouped by community for each part of the question.

First, as stated earlier, those who marked only parts (a) (being able to go hunting at least once) or (b) (seeing at least one deer) or a combination of the two were counted and considered as not needing to kill a deer for satisfaction in hunting.

The second step was to tally both the number of respondents and the numbers of deer indicated by those who answered part (f) (getting a specific number of deer) for each community.

Third, all those who did not indicate specific number in part (f) but who marked part (g) (getting the bag limit) were tallied and grouped by bag limit. The numbers hunting in each bag limit area were separated by community and multiplied by the number of deer allowed under the bag limit. (ie. If 10 hunters from Juneau hunted in a 6-deer bag limit area, total deer for satisfaction would be 60.) Numbers for each bag limit were added together to give a total satisfaction demand for a community for part (g).

Fourth, those who did not answer parts (f) or (g) and who answered (e) (getting a deer per trip) were tallied for each community. The total number of hunters answering was then multiplied by the the average number of trips per hunter for each community as indicated in the computer printout summary. This gave a total satisfaction demand for a community for part (e).

Fifth, for part (c) (getting a deer), the number of hunters giving only this answer [or only (c) in some combination with (a) and (b)] were totaled for each community. Satisfaction demand was assumed to be one deer per hunter for part (c).

Finally, all parts were then summed for each community. Total numbers of hunters answering all parts of the question were divided into total numbers of deer (satisfaction demand) for all parts of the question to get a mean number of deer per hunter per community.

Without community breakdowns, the overall results of this question are as follows:

Of the respondents, 12% (274) answered parts (a) or (b) indicating they did not have to kill a deer to have a successful season. A full 88% marked some other parts of the question indicating that they had to kill some number of deer to consider the season successful. It is safe to say that killing deer is the primary reason southeast Alaskans go deer hunting.

41% responded with answer (f) -- "getting ___ deer per season". The mean response was 3.52 deer with a standard deviation of 1.97. 76.5% of respondents gave either 2 deer, 3 deer, or 4 deer as an answer.

19% (434) answered part (g) indicating they would be satisfied getting the bag limit each season. Totals for each bag limit are as follows:

Bag limit	0 --	6	respondents	1%
" "	1 --	8	"	2%
" "	2 --	7	"	2%
" "	3 --	124	"	29%
" "	4 --	75	"	17%
" "	5 --	29	"	7%
" "	6 --	185	"	43%

Finally, 14% (309) answered part (e) indicating they would be satisfied with getting a deer each hunting trip, and 14% (307) answered part (c) indicating they would be satisfied if they killed only one deer all season.

Results of Question 10 by community were combined with the results of Question 7c by community and the actual harvest by community to produce the attached table. It indicates how many deer hunters are getting, how many they would be satisfied with, and how many they want to kill each season by community. For this table, non-resident hunters and hunters from other parts of Alaska were included with southeast Alaska hunters.

Here endeth the analysis. I recommend that future questionnaires be designed with a clear idea of what information is needed from the public and how it will be used. They should also be designed to simplify analysis and perhaps use more direct questions so that interpretation of answers is easier.

MEANS /TABLES WANT BY COMMUN.

Summaries of WANT
By levels of COMMUN

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.2243	2.1876	2202
COMMUN	ANGOON		6.0000	3.4960	19
COMMUN	BARANOF		8.0000	.0000	1
COMMUN	CHATHAM		10.0000	.0000	1
COMMUN	CHOLMOND		3.8000	1.7889	5
COMMUN	CLEVE/61		1.0000	.0000	1
COMMUN	COFFMAN		3.1071	1.1333	28
COMMUN	CRAIG		3.6379	1.9075	58
COMMUN	CUBE COV		3.0000	1.4142	2
COMMUN	EDNA BAY		4.0833	1.6214	12
COMMUN	EIGHT FA		4.0000	.0000	1
COMMUN	ELFIN CO		4.8333	2.4014	6
COMMUN	EXCURSIO		6.0000	.0000	1
COMMUN	FRESHWAT		6.5000	2.5166	4
COMMUN	FUNTER B		6.0000	.0000	1
COMMUN	GUSTAVUS		4.7273	2.2505	22
COMMUN	HAINES		5.3830	1.9622	47
COMMUN	HAWK INL		8.0000	.0000	1
COMMUN	HIDDEN F		2.0000	.0000	1
COMMUN	HOBART B		5.0000	.8165	4
COMMUN	HOLLIS		3.8750	1.5526	8
COMMUN	HOONAH		5.1667	2.1186	30
COMMUN	HYDABURG		4.1875	1.2764	16
COMMUN	JUNEAU		4.3368	2.2445	674
COMMUN	KAKE		7.0000	2.1381	8
COMMUN	KASAAN		3.5000	1.2910	4
COMMUN	KETCHIKA		3.1840	1.6189	337
COMMUN	KLAWOCK		3.8519	1.6572	27
COMMUN	LABOUCHE		2.5455	.6876	11
COMMUN	LITTLE P		3.0000	.0000	1
COMMUN	LONG ISL		6.0000	3.6056	3
COMMUN	METLAKAT		3.8571	1.6104	14
COMMUN	MEYERS C		5.0000	2.5495	9
COMMUN	PELICAN		5.5161	3.2850	31
COMMUN	PETERSBU		3.9359	1.8480	156
COMMUN	POINT BA		3.1250	1.2464	8
COMMUN	PORT ALE		7.4444	1.9437	9
COMMUN	PORT ARM		5.3333	.5774	3
COMMUN	PORT PRO		3.8000	.4472	5
COMMUN	POW/1211		6.0000	.0000	1
COMMUN	REVILL/4		3.0000	.0000	1
COMMUN	REVILL/5		2.0000	1.4142	2
COMMUN	SAXMAN		3.0000	.0000	1
COMMUN	SITKA		5.0990	2.3363	394
COMMUN	SKAGWAY		3.6250	1.5059	8
COMMUN	SKOWL AR		3.6000	1.5166	5
COMMUN	TENAKEE		4.7407	1.9532	27
COMMUN	THORNE B		3.1400	1.1608	50
COMMUN	TOKEEN/O		3.7500	1.5000	4
COMMUN	TUXEKAN		3.5000	.7071	2
COMMUN	WATERFAL		2.3333	1.5275	3
COMMUN	WHALE PA		3.7500	1.0351	8

Total Cases = 2384
Missing Cases = 182 OR 7.6 PCT.

Question 9

Summaries of DAYS
By levels of COMMUN

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.3292	17.9535	2160
COMMUN	ANGOON		1.4375	.5123	16
COMMUN	BARANOF		1.0000	.0000	1
COMMUN	CHATHAM		3.0000	.0000	1
COMMUN	CHOLMOND		3.6000	2.6077	5
COMMUN	CLEVE/61		150.0000	.0000	1
COMMUN	COFFMAN		8.3704	6.5466	27
COMMUN	CRAIG		3.2632	3.1877	57
COMMUN	CUBE COV		1.0000	.0000	2
COMMUN	EDNA BAY		7.0833	12.2805	12
COMMUN	EIGHT FA		1.0000	.0000	1
COMMUN	ELFIN CO		1.6667	.8165	6
COMMUN	EXCURSIO		1.0000	.0000	1
COMMUN	FRESHWAT		13.5000	9.2556	4
COMMUN	FUNTER B		1.0000	.0000	1
COMMUN	GUSTAVUS		2.6818	2.1906	22
COMMUN	HAINES		2.7917	9.2021	48
COMMUN	HAWK INL		1.0000	.0000	1
COMMUN	HIDDEN F		4.0000	.0000	1
COMMUN	HOBART B		4.0000	5.1962	3
COMMUN	HOLLIS		2.6250	1.9955	8
COMMUN	HOONAH		8.8929	25.1710	28
COMMUN	HYDABURG		5.6000	8.2358	15
COMMUN	JUNEAU		3.2466	16.7787	669
COMMUN	KAKE		1.7143	1.8898	7
COMMUN	KASAAN		1.7500	.9574	4
COMMUN	KETCHIKA		7.0967	28.2070	331
COMMUN	KLAWOCK		19.9583	73.9186	24
COMMUN	KUPREANO		2.0000	.0000	1
COMMUN	LABOUCHE		9.5000	8.6570	10
COMMUN	LITTLE P		1.0000	.0000	1
COMMUN	LONG ISL		1.3333	.5774	3
COMMUN	METLAKAT		3.4167	2.8110	12
COMMUN	MEYERS C		1.4444	.7265	9
COMMUN	PELICAN		1.9000	1.4704	30
COMMUN	PETERSBU		1.8471	1.4240	157
COMMUN	POINT BA		1.8750	.8345	8
COMMUN	PORT ALE		1.8000	.7888	10
COMMUN	PORT ARM		3.3333	1.5275	3
COMMUN	PORT PRO		2.8000	2.4900	5
COMMUN	POW/1211		15.0000	.0000	1
COMMUN	REVILL/4		2.0000	.0000	1
COMMUN	REVILL/5		1.5000	.7071	2
COMMUN	SAXMAN		1.0000	.0000	1
COMMUN	SITKA		3.7636	10.4060	385
COMMUN	SKAGWAY		17.8750	34.6098	8
COMMUN	SKOWL AR		7.8333	11.3739	6
COMMUN	TENAKEE		4.5385	6.2688	26
COMMUN	THORNE B		5.3043	6.5992	46
COMMUN	TOKEEN/O		1.5000	1.0000	4
COMMUN	TUXEKAN		15.5000	20.5061	2
COMMUN	WATERFAL		5.3333	4.5092	3
COMMUN	WHALE PA		6.1111	9.1712	9

Total Cases = 2384
Missing Cases = 224 OR 9.4 PCT.

Hunter demand by community of residence in Southeast Alaska. Based on responses to 1987 deer hunter mail questionnaire.

Community	# hunters	Actual Deer/hunter	Total	Satisfied Deer/hunter	Total	Desired Deer/hunter	Total
Angoon	95	5.2	493	4.2	399	6.0	570
Baranof	1	5.0	5	8.0	8	8.0	8
Chatham	1	6.0	6	0.0	0	10.0	10
Cholmondeley	8	1.25	10	2.4	19	3.8	30
Coffman Cove	104	1.6	165	2.1	218	3.1	322
Craig	380	2.0	760	2.9	1,102	3.6	1,368
Cube Cove	12	0	0	2.0	24	3.0	36
Edna Bay	40	1.35	54	3.5	140	4.1	164
Eight Fathom	6	4.0	24	4.0	24	4.0	24
Elfin Cove	13	2.5	33	2.7	35	4.8	62
Excursion Inlet	3	3	9	6.0	18	6.0	18
Freshwater	12	3.6	43	1.0	12	6.5	78
Funter	1	6	6	6.0	6	6.0	6
Gustavus	42	2.3	98	3.1	130	4.7	197
Haines	177	2.6	463	3.7	654	5.4	956
Hawk Inlet	2	0	0	0.0	0	8.0	16
Hidden Falls	3	0	0	0.0	0	2.0	6
Hobart Bay	6	3.5	21	3.0	18	5.0	30
Hollis	32	2.8	88	2.6	83	3.9	125
Hoonah	299	2.5	748	3.4	1,017	5.2	1,555
Hydaburg	77	1.5	113	2.5	193	4.2	323
Juneau	2,785	1.8	4,995	2.6	7,241	4.3	11,976
Kake	75	2.2	163	3.4	214	7.0	441
Kasaan	10	1.0	10	2.5	25	3.5	35
Ketchikan	1,716	1.2	2,004	1.9	3,260	3.2	5,491
Klawock	206	1.5	313	2.6	536	3.9	803
Labouchere Bay	42	1.6	69	1.9	80	2.5	105
L. Port Walter	3	1.0	3	0.0	0	3.0	9
Long Island	12	2.0	24	5.3	64	6.0	72
Loring	1	2.0	2	2.0	2	--	--

(Continued)

Community	# hunters	Actual Deer/hunter	Total	Satisfied Deer/hunter	Total	Desired Deer/hunter	Total
Metlakatla	45	0.4	18	2.1	95	3.9	176
Meyers Chuck	17	1.4	23	3.8	65	5.0	85
Other Alaska	124	1.7	216	2.7	335	4.9	608
Outside Alaska	100	0.7	73	1.2	120	2.9	290
Pelican	78	2.9	227	4.2	319	5.5	418
Petersburg	665	2.2	1,436	2.7	1,796	3.9	2,594
Point Baker	18	2.7	48	2.8	50	3.1	56
Port Alexander	22	4.7	103	4.4	97	7.4	163
Port Armstrong	4	3.3	13	1.0	4	5.3	21
Port Protection	11	0.8	9	3.3	36	3.8	42
POW/1211	6	3.0	18	3.0	18	6.0	36
Revill/406	6	3.0	18	1.0	6	3.0	18
Revill/510	3	0	0	1.0	3	2.0	6
Saxman	6	3.0	18	3.0	18	3.0	18
Sitka	2,011	2.8	5,711	3.5	7,039	5.1	10,256
Skagway	11	3.3	36	3.0	33	3.6	40
Skowl Arm/ Polk Inlet	15	2.4	36	2.7	41	3.6	54
Tenakee Spr.	37	3.3	122	3.6	133	4.7	174
Thorne Bay	205	1.8	365	2.5	513	3.1	636
Tokeen/Orr Island/SOS	5	1.8	9	2.0	10	3.8	19
Tuxekan	4	3.0	12	3.5	14	3.5	14
Waterfall	5	0.4	2	1.0	5	2.3	12
Whale Pass	25	1.4	36	1.3	33	3.8	95
Whitestone Logging	79	2.3	183	2.6	205	4.0	316
Wrangell	463	0.7	319	1.9	880	3.7	1,713
Yakutat	16	0.6	10	1.6	26	4.1	66
Yes Bay	2	0.5	1	1,5	3	3.0	6
All SE Alaska	10,147	2.0	19,784	2.7	27,419	4.2	42,768