

**STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND AND WATER
SOUTHCENTRAL REGION LAND OFFICE**

**PRELIMINARY BEST INTEREST FINDING
AQUATIC FARMSITE LEASE APPLICATION**

**ADL # 107862
APPLICANT: Casey Havens
DBA: *Yak-tat Kwaan, Inc.*
LOCATION: Gonakadetseat Bay, Yakutat**

The Department of Natural Resources is accepting public comment on the following preliminary decision document for a 10-year aquatic farm site lease. **Written comments must be received on or before 5:00 p.m., Tuesday, December 8, 2009.**

PROPOSED ACTION: The applicant is requesting a 10-year aquatic farm site lease on state-owned tide and submerged land off Khantaak Island in Gonakadetseat Bay just north of the city of Yakutat in southeast Alaska. The applicant is requesting 5 sites all within close proximity of each other.

Site #1: 425 ft. x 15 ft. intertidal site (0.15 acres)
Site #2: 1340 ft. x 20 ft. intertidal site (0.60 acres)
Site #3: 1028 ft. x 20 ft. intertidal site (0.47 acres)
Site #4: 150 ft. x 50 ft. intertidal site (0.17 acres)
Site #5: 200 ft. x 400 ft. suspended culture site (1.83 acres)

Total acreage = 3.22 acres

Access to the site is only accessible by boat or floatplane. A location map is attached to this decision.

AUTHORITY: AS 38.05.035; AS 38.05.070; AS 38.05.075; AS 38.05.083; AS 38.05.127;
AS 38.05.128; 11 AAC 63.020

This decision addresses and is based on those issues under the authority of the Department of Natural Resources (DNR) under Title 38. While other issues may be addressed that are not within the scope of DNR's responsibilities, this decision's purpose is to determine whether or not to issue a DNR lease and does not make any determinations whatsoever on the issuance of other agency authorizations that are necessary for aquatic farming activities.

ADMINISTRATIVE RECORD: The administrative record for this application is 107862

GEOGRAPHIC LOCATION: The proposed farm site is to be located on state-owned tidelands just north of the city of Yakutat off Khantaak Island within Gonakadetseat Bay in northern southeast Alaska.

USGS MAP COVERAGE: Yakutat C-5

NAUTICAL CHART: 16761

LEGAL DESCRIPTION: Township 27 South, Range 33 East, Copper River Meridian and more specifically described as:

Section 12; east ½, plus
Section 1; SE ¼ in Gonakadetseat Bay between Sea Otter Bay and Johnstone Passage, approximately 7 miles north of the City of Yakutat.

LATITUDE/LONGITUDE: The corners of the proposed aquatic farm site areas are proposed to be sited at:

Site #1: Pt. to Pt.	59°35'57.731N	139°44'43.951W
	59°36'02.051N	139°44'48.201W
Site #2: Pt. to Pt.	59°35'55.091N	139°44'54.441W
	59°35'47.941N	139°45'06.739W
Site #3: Pt. to Pt.	59°35'42.868N	139°45'09.441W
	59°35'32.989N	139°45'05.731W
Site #4: NE	59°35'30.751N	139°45'05.798W
SE	59°35'30.201N	139°45'05.919W
SW	59°35'29.832N	139°45'08.212W
NW	59°35'30.401N	139°45'45.303W
Site #5 NE	59°35'47.368N	139°44'59.621W
SE	59°35'46.979N	139°44'55.030W
SW	59°35'42.161N	139°44'56.267W
NW	59°35'42.711N	139°45'00.391W

POLITICAL INFORMATION:

BOROUGH/MUNICIPALITY: City and Borough of Yakutat.

COASTAL DISTRICT: The application lies within the Yakutat coastal district

REGIONAL/VILLAGE CORPORATION/COUNCILS: Sealaska Corporation

FISH AND GAME ADVISORY COMMITTEES: Yakutat.

TITLE:

ACQUISITION AUTHORITY: Submerged Lands Act of 1953. (PL 31, 83rd Congress, First Session; 67 Statute 29); Equal Footing Doctrine; Section 1 of the Alaska Statehood Act.

TITLE REPORT: Report for the area was requested on September 20, 1999 (from a previous aquatic farm application in the same area).

PLANNING AND CLASSIFICATION:

LAND MANAGEMENT PLAN: Yakataga Area Plan adopted April 1995, amended in January, 2004.

LAND CLASSIFICATION: The Yakataga Area Plan designates state-owned tidelands surrounding the proposed aquatic farm site as Fish and wildlife habitat, fish and wildlife harvest and Recreation and tourism – dispersed use. The plan classifies state-owned tidelands surrounding the proposed aquatic farm site as Wildlife habitat land and Public recreation land.

Yakataga Area Plan Management intent: Protect or enhance fish and wildlife habitat, particularly for seals, seabirds, and otters.

Protect conditions for fish and wildlife harvest, particularly for commercial fish and shellfish harvest, aquatic farming, and community harvest of salmon, crab, clams, waterfowl, and seals.

Protect or enhance conditions for dispersed recreation, particularly boating, fishing, gathering, and anchorages.

All activities will, to the extent feasible and prudent, avoid significant adverse impacts to the habitat resources, harvest activities, and recreation uses listed above.

SURFACE MINERAL ORDER: The proposed sites are open to mineral entry. No mineral closing order is proposed.

ALASKA COASTAL MANAGEMENT PLAN: A former aquatic farm site in the exact area as the proposed aquatic farm site was found consistent with the Alaska Coastal Management Plan under 920527-30J in 1992. The coastal district, local residents, state resource agencies, farm site applicant, and the general public are welcome to comment during the public comment period.

ACCESS: Access to the proposed sites is by boat or floatplane. A fifty-foot-wide easement will be reserved to protect public access in accordance with 11 AAC 63.050(b)(6) and 11 AAC 53. If additional specific easements are required, they will be addressed under the final recommendation section of this document.

SURVEY AND APPRAISAL:

SURVEY: A survey is not required by law before issuing a 10-year negotiated lease. However, the department has the right to require one, at the applicant's expense, if boundary conflicts or disputes over acreage arise.

APPRAISAL: A site-specific appraisal is not necessary because the Division of Mining, Land and Water has approved an administrative lease fee schedule for aquatic farm sites. The most current lease fee schedule will be used to establish the fair market rental each

lessee must pay. The applicant has the option to have a site-specific appraisal done, at the applicant's expense, before the lease is issued, if he or she does not want to use the fee schedule. If an applicant opts for a site-specific appraisal, the approved appraisal will establish the rental for the affected lease, and the applicant cannot later decide to switch back to the fee-schedule rate.

PUBLIC/AGENCY NOTICE AND COMMENTS: Public notice of the proposal has been sent to various newspapers, post offices, agencies, boroughs/cities, native corporations and Fish and Game Advisory committees. Public and agency comments are welcome during the comment period and will be considered in the final best interest finding. Only those who provide written comments during the comment period will be sent a copy of the final best interest finding and will be eligible to appeal. The final best interest finding will consider and address any comments related to the subject proposal. The final best interest finding will include explanation of the appeal process. The public comment period begins on November 9, 2009 and will end at 5:00 p.m. on December 8, 2009.

PENDING INTERESTS: The Alaska Department of Fish and Game has provided the following information:

The Alaska Department of Fish and Game (ADF&G) has reviewed the subject proposal and has done a partial review and determination of this proposal under its statutory and regulatory requirements.

Project Description

The applicant is requesting a proposed aquatic farm site located in Gonakadetseat Bay under ADL 107862, approximately 1 mile north of Yakutat, Alaska, on state-owned tide and submerged lands. The northeast corner of the Site #1 is located at 59° 36.035' N, 139° 44.798' W and runs south 425 feet, then west 15 feet for a total of 0.15 acre. The northeast corner of the Site #1 is located at 59° 36.035' N, 139° 44.798' W and runs south 425 feet, then west 15 feet for a total of 0.15 acre. The northeast corner of the Site #2 is located at 59° 35.914' N, 139° 44.901' W and runs south 1340 feet, then west 20 feet for a total of 0.62 acre. The northeast corner of the Site #3 is located at 59° 35.719' N, 139° 45.115' W and runs south 1028 feet, then west 20 feet for a total of 0.47 acre. The northeast corner of the Site #4 is located at 59° 35.507' N, 139° 45.055' W and runs south 50 feet, then west 150 feet for a total of 0.17 acre. The northeast corner of the Site #5 is located at 59° 35.783' N, 139° 44.917' W and runs south 400 feet, then west 200 feet for a total of 1.8 acres. The total requested acreage for this proposed farmsite is 3.2 acres.

Species to culture are Pacific oysters, basket cockles, purple-hinged rock scallops.

Evaluation

I. Physical and Biological Characteristics: The proposed aquatic farm site is located in a location area that has physical and biological characteristics that are suitable for culture of oysters.

Protection from Oceanographic and Atmospheric Extremes: The proposed aquatic farm operation project is in an area that appears to be protected from extreme oceanographic and atmospheric extremes. The farm gear proposed for use at the site

have a similar configuration and anchoring systems as existing adjacent aquatic farms in the area and appears to be able to withstand these extremes.

Sufficient environmental conditions: The proposed aquatic farm operation project is in an area that appears to have sufficient water exchange, water temperatures, currents, salinity, and primary production to support an aquatic farm and maintain healthy environment for other marine organisms.

Sufficient Water Depth: The water depth at the aquatic farm site appears to have sufficient to prevent gear from grounding and impacting the benthos under floating structures.

Eelgrass and Kelp Beds Maintained: Based on the application information provided by the applicant, there does not appear to be any eelgrass in the proposed project area. The exact locations and extent of kelp beds is not well documented in the area. If health and the abundance of kelp beds in the area are not properly maintained within the proposed aquatic farm site, project modifications to the Aquatic Farm Operations Permit will be made to correct the condition.

Anadromous Fish Streams: Anadromous streams catalogued for various salmon species are located near the proposed project¹. The proposed aquatic farm operation is not located within 300 feet of the mouth of an anadromous fish stream. The closest anadromous stream is 2.0 miles from the site being proposed. Table 1 summarizes the distance between the aquatic farm site coordinate and the mouth of the anadromous stream, the classification number for the stream, and lists all the fish species that reside or spawns there.

Site No.	Location	Name of Stream	Number	Dist. Between site and mouth of stream (feet)	Fish Species
107862	Gonakadetseat Bay		183-10-10500	2.1 miles	coho salmon, pink salmon

II. Existing Uses not Significantly Altered: The proposed aquatic farm site is not expected to cause any significant alterations an established use defined as commercial fishery, sport fishery, personal use fishery, and subsistence fishery. Table 2 summarizes the traditional and existing uses for commercial, sport, and subsistence fisheries and anchorages in the proposed aquatic farm site area.

¹¹Johnson, J. and K. Klein. 2009. Catalog of waters important for spawning, rearing, or migration of anadromous fishes - Southeast Region, Effective June 1, 2009. Alaska Department of Fish and Game, Special Publication No. 09-04, Anchorage.

ADL-site	General Area	Species	ADF & G Stat Area	Geoduck Commercial Fishery	Sea Cucumber Commercial Fishery	Red Urchin Commercial Fishery	Salmon Gillnetting Commercial Fishery	Salmon Trolling/Salmon Purse Seining	Herring/Dungeness crab	Recreational Sport Fishery / Personal Use	Anchor	Subsistence
107862	Gonakadet-seat Bay	Pacific oyster, basket cockle, purple-hinged rock scallop	183-10	No	Yes	No	Yes	Yes	No	Probably	Yes	No

Commercial Fisheries: The proposed aquatic farm is located in ADF&G Commercial Fisheries Division Statistical Area subdistrict 183-10. The proposed aquatic farm site is not expected to cause any significant alterations to the existing commercial fishery uses in the area.

Geoducks: No commercial geoduck dive fishery takes place at the site.

Sea cucumber: These sites are in the Yakutat Bay experimental commercial sea cucumber dive fishery harvest area. The number of permits (individuals) for this statistical area harvesting sea cucumbers accounted for 11% (6 out of 55) of all the 2007/08 season permits recorded that harvested in the Juneau SE Management Area. The proposed aquatic farm site is not expected to cause any significant alterations to the existing sea cucumber uses in the area.

Red Sea Urchins: No commercial red sea urchin dive fishery takes place at the site.

Salmon: No salmon gillnetting fishery, salmon trolling, or gillnet salmon fishery occurs at the site. This site lies within a subdistrict area where a commercial salmon gillnetting and trolling fisheries occurs. In 2008, there were 1,633 recorded salmon landings in this statistical subdistrict area. The proposed aquatic farm site is not expected to cause any significant alterations to the existing salmon commercial fishery uses in the area.

Herring: No commercial herring fishery occurs in this area.

Dungeness crab: No commercial crab fishery occurs in this area.

Sport Recreational Fishery: The area is not a significant site for Sport Anglers. Traditional troll and bottom fishing area for sport fishers is not known to occur in this

area. Due to their design, oyster farms have not seemed to have significant negative impact on anglers. The proposed aquatic farm site is not expected to cause any significant alterations to the existing sport recreational fishery uses in the area.

Subsistence Use: This proposed aquatic farm site is not expected to significantly alter existing subsistence fishery use in the area.

Anchorage: This area is not known to have any critical vessel anchorages.

III. Compatible with Fish and Wildlife Resources: The proposed aquatic farm site is compatible with fish and wild life resources in the area.

Predator and Pest Control Methods: Predator exclusion devices to be used at the proposed site are expected to be utilized in a manner that minimizes impacts on non-targeted fish and wild life resources in the area.

Sensitive Wildlife: The proposed aquatic farm site is not expected to adversely impact seabird colonies, sea lion haulouts and rookeries, seal haulouts and pupping areas, and walrus haulouts.

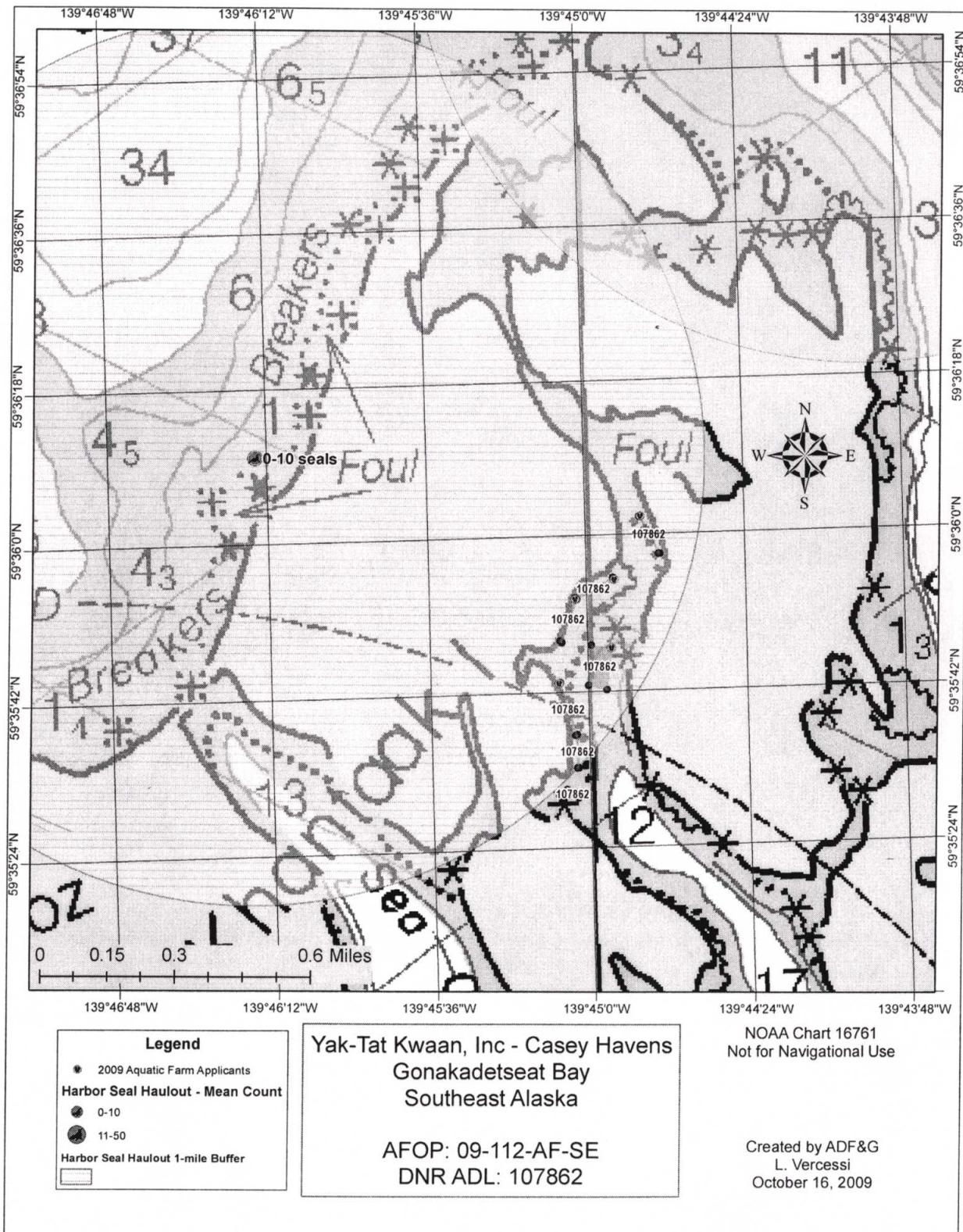
Sea Bird Colonies – There are no sea bird colonies identified within 1 mile of the proposed sites.²

Sea Mammal Habitat - The proposed aquatic farm is located within 1 mile of a known harbor seal haulout area based on the linear distance from the northeastern latitude and longitude coordinate of the proposed aquatic farm site and the center point of the nearest known marine mammal haulout³ (See the attached map, Figure 1, for the location of the farm site and the haulout areas). During survey of 1998, a mean count of between 0 and 10 harbor seals were present at this haulout. During the survey of 2007, no counts were determined for harbor seals at this haulout. Relative to the numbers of the population stock for this management area, the haulout is secondary based on the harbor seal counts. The primary haulout for harbor seals in this area, based on a count of between 101 and 500 seals, is 32 miles away. This proposed aquatic farm project is not expected to adversely impact sea mammal habitats. Table 1 summarizes the actual estimated distances from harbor seal haulout areas.

² U.S. Fish and Wildlife Service, (current year). Beringian Seabird Colony Catalog -- computer database. U.S. Fish and Wildlife Service, Migratory Bird Management, Anchorage, Alaska 99503.

³ Analysis completed by NOAA Fisheries Service, Alaska Region, Protected Resources Division. Specifically, the data used to complete this analysis were provided by researchers from NOAA Fisheries Service, Alaska Fisheries Science Center, and National Marine Mammal Laboratory.

Figure 1: Harbor seal haulouts and one mile buffer in the Yakutat area.



ADL	General Area	Applicant Contact Name	Species	Sea Lion Haulout	Harbor Seal Haulout	Count	Distances from Haulout Area (miles)
10786 2	Gonakadetse at Bay	Yak-Tat Kwaan Inc.	Pacific oyster, basket cockle, purple-hinged rock scallop	No	Yes	0-10	0.8 mile
10786 2	Gonakadetse at Bay	Yak-Tat Kwaan Inc.	Pacific oyster, basket cockle, purple-hinged rock scallop	No	Yes	101-500	32 miles

Endangered species: The proposed aquatic farm project is not expected to adversely impact endangered and threatened species recovery and habitat efforts.

IV. Operation and Development Plan:

Increase Productivity: The operation and development plan for this project sufficiently describes how the operation will improve the productivity of the species intended for culture above what would occur in natural conditions using approved methods such as predator exclusion, reduction of competing species, destiny manipulation, import of naturally produced seed, import of hatchery produced seed, programming harvest to optimize growth and shellfish condition, and habitat improvements.

Maintenance: The operation and development plan for this project indicates that support facilities and culture gear and anchoring system will be installed with sufficient anchors and maintained.

Rotation Schedule: The projected rotation schedule is consistent with the life history of the species intended for culture.

V. Species to be Cultured and Site Suitability

The department has not conducted a site suitability study for this site. Based on information provided by the applicant, the proposed site is capable of supporting the activities proposed. The proposed parcels in this aquatic farm operation project are located in an area that is thought to be suitable for suspended oyster culture.

BONDING AND INSURANCE: Bonding, or another form of security, is required under AS 38.05.083 and 11 AAC 63.080. The bond must cover the costs of site cleanup and restoration, any associated cleanup costs after termination of the lease, including any unpaid rentals or other obligations accruing until site restoration is complete. The bond regulations require:

The minimum security amount for a lease is \$2,500. However, if three or more lessees post an association bond to cover all of their leases, the minimum security amount is 50 percent of the amount individually calculated for each lease. The association must

designate an agent for notification purposes. The association has the right to be notified of the termination of a lease covered by its association bond. If neither the former lessee nor the association completes the site restoration as required by AS 38.05.090, the department will use the association bond for this purpose, up to 100 percent of the amount individually calculated for that lease. The association may remove a lease in good standing from the coverage of its association bond after a 60-day notice to the department, during which time the affected lessee must make other arrangements to comply with 11 AAC 64.080(b). A lease that is in default or that has been terminated with site restoration still pending may not be removed from the coverage of an association bond.

At this time, the Department does not require these operations to have insurance. Insurance may be required in the future depending on the operation and the policies of the department at the time changes are made to the lease or another lease is issued. Insurance, such as Workman's Compensation Insurance, may be required under other state laws.

General information about the area

Numerous upland areas have cultural sites or are used for community harvest, with access by small boat from Yakutat. Anchorages and access across the tidelands are important to the use of these upland sites. Cultural sites include: a historic village site on Port Mulgrave, abandoned in 1893 and now covered by a graveyard; and various camping places on the north end of Crab Island. Yak-tat Kwaan hosts a Tlingit culture camp for youth every summer in the Anka. Community harvest occurs in most of the bays, coves, and passages in this subunit. Intensity of use varies. More information is available in the *Aquatic Farming Resources* Report prepared for this plan. Harvest directly from tidelands and shorelands includes digging for cockles and clams, gathering of gumboots, seaweed, sea urchins, and sea cucumbers, pot fishing for shrimp and crab, salmon trolling, and waterfowl and seal hunting. The set net fishery at Humpie Creek attracts an annual average of 12 permit holders, primarily for pink salmon and a small number of coho, with an annual average value of \$7,600 from 1981 -1991. Sport fishing and hunting and recreation uses occur throughout this subunit. The lees of the islands are favored for kayaking and other small boat use because strong swells and winds from Yakutat Bay are common. Khantaak Island serves as a barrier island, sheltering the City of Yakutat from the brunt of storm swells and winds from Yakutat Bay and the Gulf. Large boats, particularly non-Yakutat fishing boats, anchor in Rurik Harbor and Deep Bay as an alternative to the boat harbor. Rurik Harbor is 20 fathoms at the mouth, with an open channel, and a mud bottom that allows anchors to drag somewhat. Deep Bay is 30 fathoms deep at the mouth; ten fathoms deep at the end, and free from the westerly winds common in summer.

TRADITIONAL USE FINDING: The presence of aquatic farm sites should not disrupt traditional and/or existing uses of the area, such as commercial and sport fishing, subsistence activities, boat travel, anchorage and recreation. Through agency and public input, more traditional and existing use information may surface. If such information becomes available, any potential and/or existing conflicts will be addressed in the final best interest finding.

YAKUTAGA AREA PLAN INFORMATION SPECIFIC TO THIS PROPOSAL: The proposed aquatic farm site lies within Management Unit 8B, Subunit 8b1, The Yakutaga Area Plan identifies the tidelands and submerged lands surrounding the proposed aquatic farm as Fish and wildlife habitat, fish and wildlife harvest and Recreation and tourism – dispersed use. The plan classifies state-owned tidelands surrounding the proposed aquatic farm site as Wildlife habitat land and

Public recreation land. That plan states that aquatic farming should locate in a place and in a manner that will have minimum impacts on designated primary uses and will not preclude upland uses, including access or planned disposal of land.

A. Aquatic farming and competing uses

Aquatic farming is an allowable use on state tidelands or submerged lands. However, aquatic farming may pose conflicts with existing marine uses. Chapter 3 and Appendix F list existing marine uses in specific areas. Areas with existing marine uses may be available for aquatic farming if DNR determines that:

1. it is possible to site, design, and operate the two or more uses compatibly in the area, or
2. there is no feasible and prudent⁴ alternative for aquatic farming while one exists for the competing use.

In no case will DNR allow aquatic farming to foreclose access to mineral, timber, important fish and wildlife, or recreation resources unless feasible and prudent alternative access exists.

B. Aquatic farming caretaker facilities

Floating caretaker facilities for aquatic farming operations are allowed in areas where there is no feasible and prudent upland alternative and no significant competing use.

C. Preferred storage sites

Shellfish awaiting test results for paralytic shellfish poisoning (PSP) before shipment should be stored on exposed gravel and sand beaches, or the least biologically active area that provides protection from severe weather conditions, because these sites are less biologically productive than salt marshes or tidal flats.

ENVIRONMENTAL RISK QUESTIONNAIRE: The applicant has indicated that this proposed activity will not generate, use, store, transport, disposal of, or otherwise come in contact with toxic and/or hazardous materials, and/or hydrocarbons.

CONSIDERATIONS: The following criteria, set out in 11 AAC 63.050(b), has been considered and represents what is known at this time:

Land Management: There are no known land management policies or designations, other than those in the Alaska Coastal Management Program, the Prince of Wales Island Area Plan, and potentially the Tongass Land and Resource Management Plan that may impact this proposal. Measures taken to mitigate impacts on the resources identified in the above-mentioned plans are listed below.

Pending/Existing Uses:

1. There are no known pending use conflicts or potential impacts to nearby communities or residential land due to the placement of this farm at the proposed location.
2. Information available suggests the aquatic farm should not disrupted traditional and existing uses of the site for use as an anchorage, commercial and sport fishing, recreation, and tourism.

Issuing a lease for an aquatic farm would not compete with commercial and sport fisheries as access to those resources being sought after would be protected and stipulated in any resultant lease agreement.

In order to inform the public of their continued access rights, any resultant lease would stipulate the requirement that signs be posted with information that informs the public of their rights of access through the farmsite as well as access to those fish and wildlife resources not being cultured at the aquatic farmsite.

3. There are no historic and cultural resources known to exist in the area.
4. There are no commercial or industrial facilities known to exist in the area.

Public Access: Public access has been and will be protected in accordance with 11 AAC 63.050(b)(6) and 11 AAC 53 and will be addressed in any resultant lease agreement.

Public Trust Doctrine: Any resultant lease agreement is subject to the principles of the Public Trust Doctrine in order to protect the public's right to use navigable waters and the land beneath them for navigation, commerce, fishing, and other purposes.

Mitigation Measures: In addition to the mitigation measures identified above under Pending/Existing Uses, paragraph 2, any resultant lease renewal may include additional stipulations necessary to mitigate conflicts identified during the public/agency comment period

Social, Economic, and Environmental Concerns: There are no known significant social, economic, and environmental effects from the existing lease.

Surface Area: The proposal does not encumber more than a third of the surface area of a bay, bight, or cove in accordance with 11 AAC 63.050(c).

ADVANTAGES AND DISADVANTAGES OF THE PROPOSAL: This aquatic farm could provide opportunities to increase income and diversify the state's economy by utilizing state tide and submerged lands for this purpose. The advantage of this lease on state owned tide and submerged lands would be possible employment opportunities as well as any secondary jobs created or increased from businesses involved in marketing, transport or sale of farmed products.

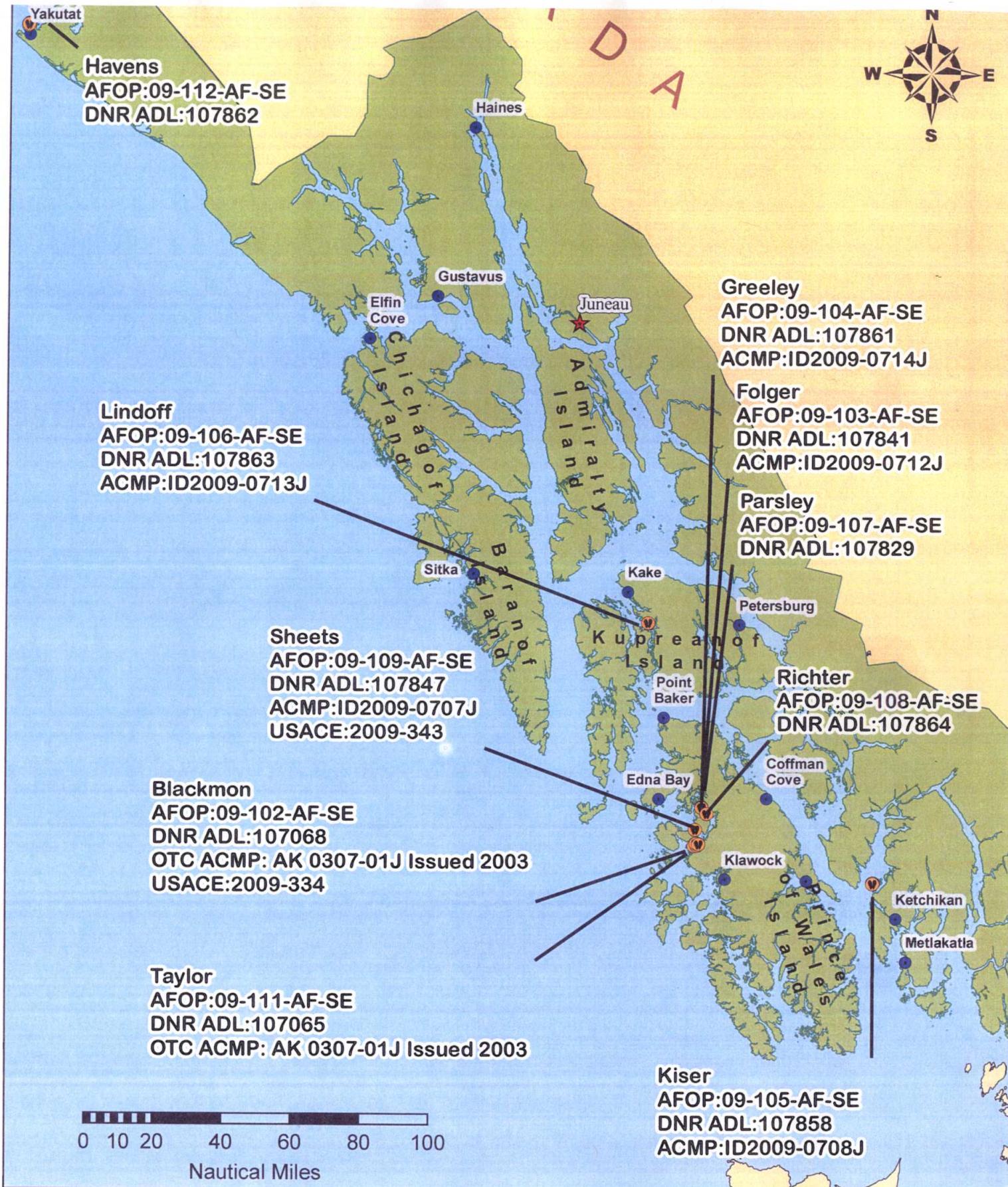
There are no obvious disadvantages of this activity on state owned tide and submerged lands. The public should be aware that access through the site, as well as access to any of the common property resources not being cultured at the site are public uses that remain intact. Therefore, any resultant lease would stipulate the requirement that there is proper signage of the aquatic farm sites to inform the public of the owners name, address, ADFG and DNR permit and lease numbers.

***Recommendation on following page.**

RECOMMENDATION: Considering the information known at this time and described within this decision, it appears to be in the state's best interest to proceed forward toward the lease for approximately 3.22 acres more or less to the applicant for shellfish culture. Any resultant lease will include stipulations that may be identified as a result of public comments. Approval of the application is recommended with a security bond set at \$2,500 or \$1250 with an association bond. Should the Division of Governmental Coordination find the project inconsistent with the Coastal Management Program, the lease would not be issued.

John S. Thiede
John S. Thiede, Aquatic Farm Program Manager

November 6, 2009
Date

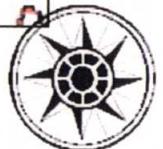
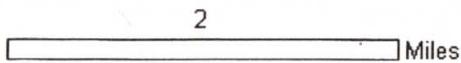


2009 Aquatic Farm Opening Sites Southeast Alaska



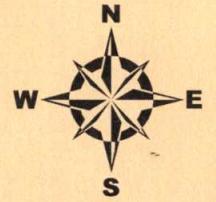
-  2009 Aquatic Farm Application Sites
-  Capital

Vicinity Map Yak-tat Kwaan Inc

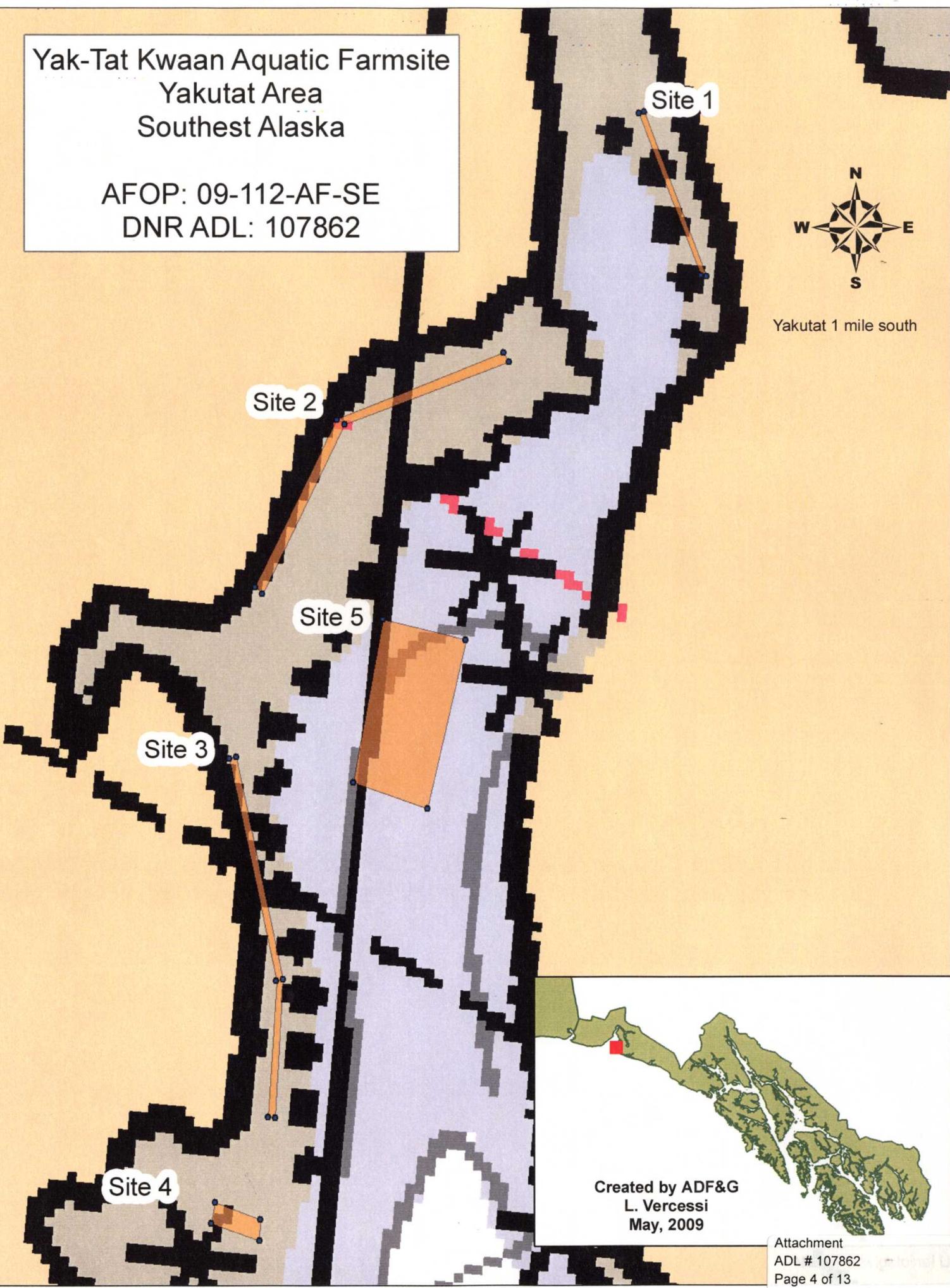


Yak-Tat Kwaan Aquatic Farmsite
Yakutat Area
Southeast Alaska

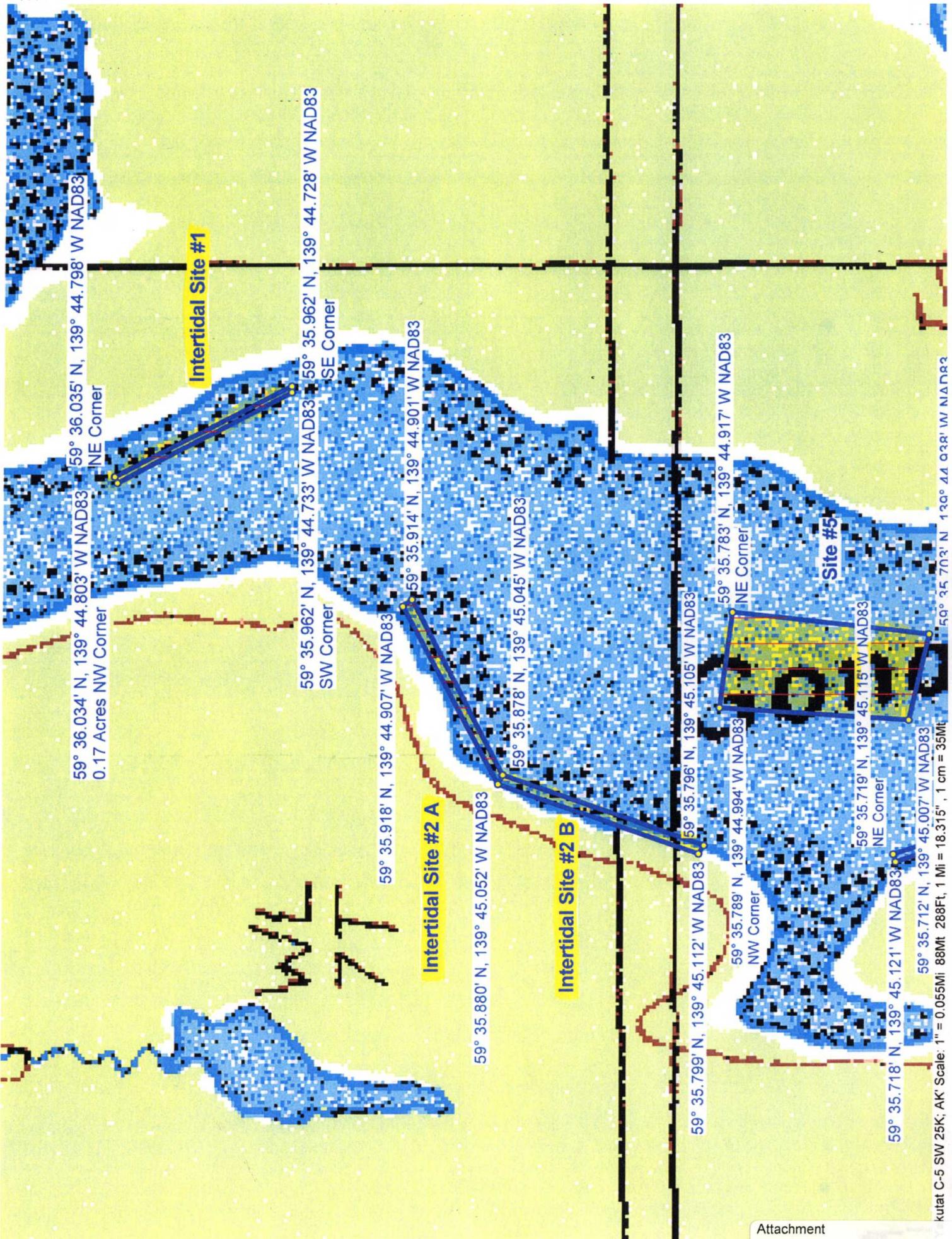
AFOP: 09-112-AF-SE
DNR ADL: 107862



Yakutat 1 mile south



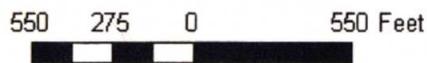
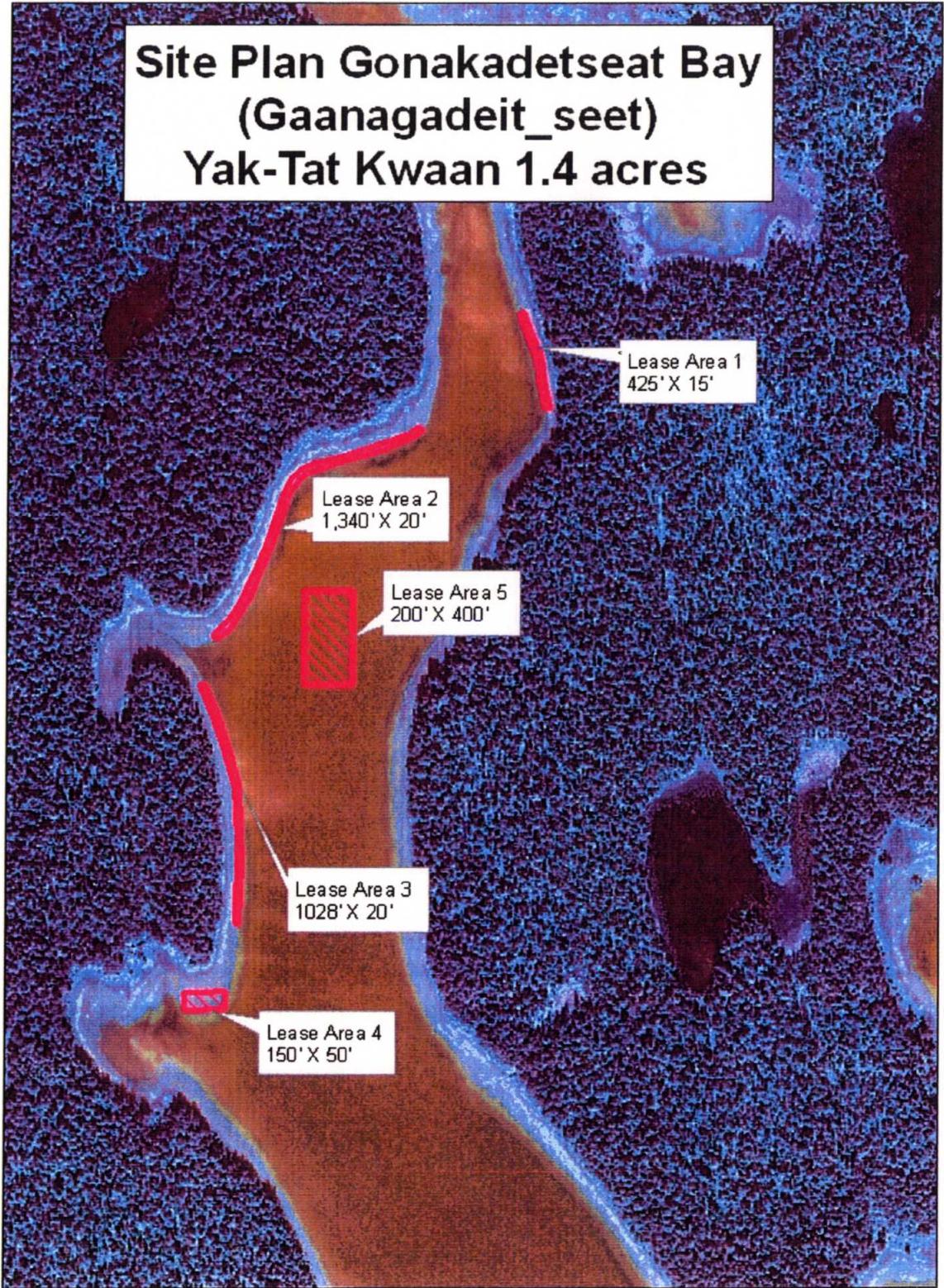
Created by ADF&G
L. Vercessi
May, 2009



kutat C-5 SW 25K; AK' Scale: 1" = 0.055Mi 88Mt 288Ft, 1 Mi = 18.315', 1 cm = 35Mt



Site Plan Gonakadetseat Bay (Gaanagadeit_seet) Yak-Tat Kwaan 1.4 acres



Yak-Tat Kwaan, Inc.

Detailed Site Plan

Total Culture Area
 Intertidal: 61,235 ft.²
 Suspended: 80,000 ft.²
 Total: 141,235 ft.² or 3.24 acres

Major Biotic Communities within Lease Boundaries:
Fucus kelp attached to cobble and rocks throughout beach sites
 Low densities of littleneck clams found on all four intertidal sites
 No eel grass within intertidal boundaries.

Suspended Culture Site
 200'x400'=80,000 ft.²

Substrate
 Substrate of all four intertidal sites is a mixture of mud and gravel, cobble and larger rocks.

Caretaker Camp Site
 (Compostable toilet)

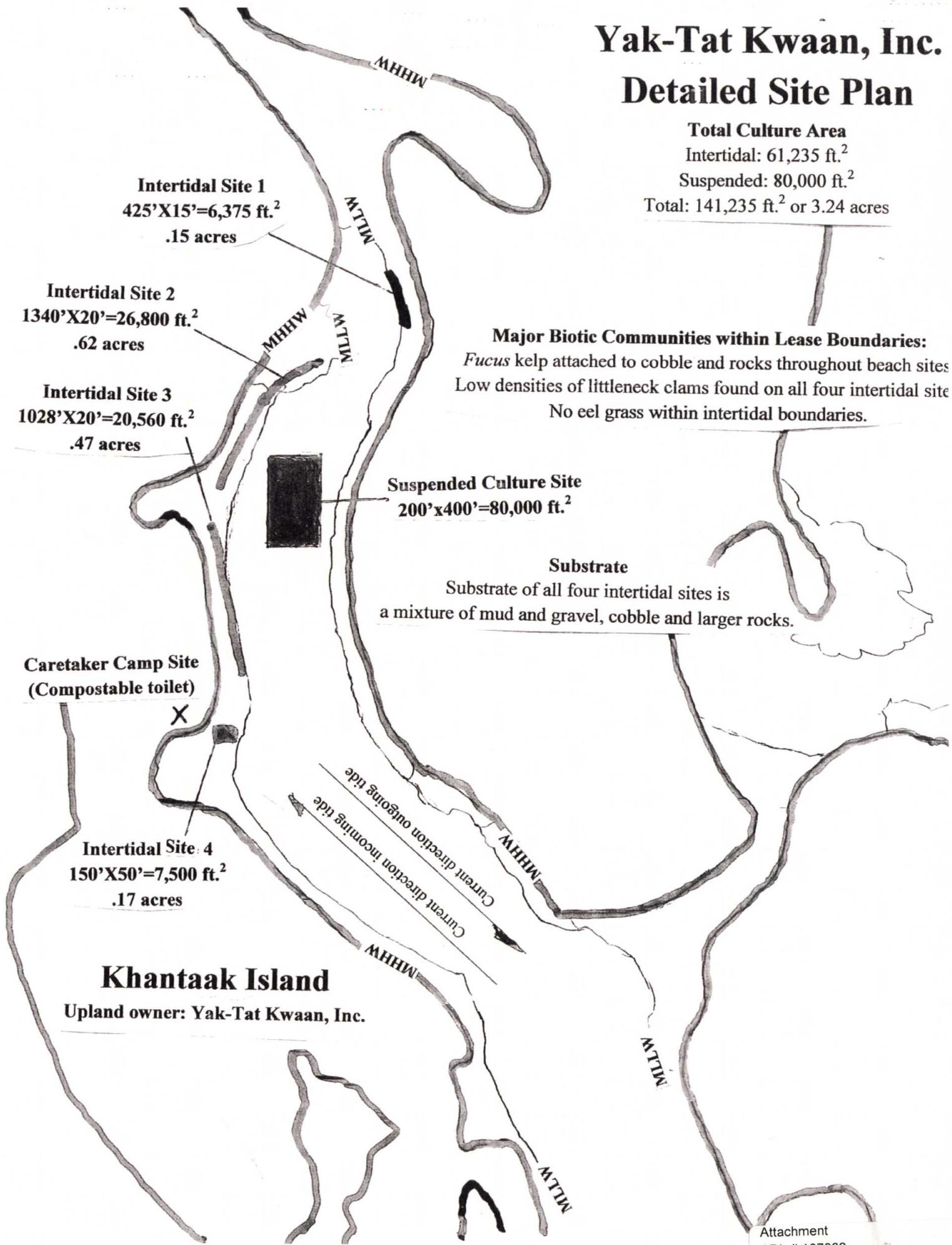
Intertidal Site 4
 150'X50'=7,500 ft.²
 .17 acres

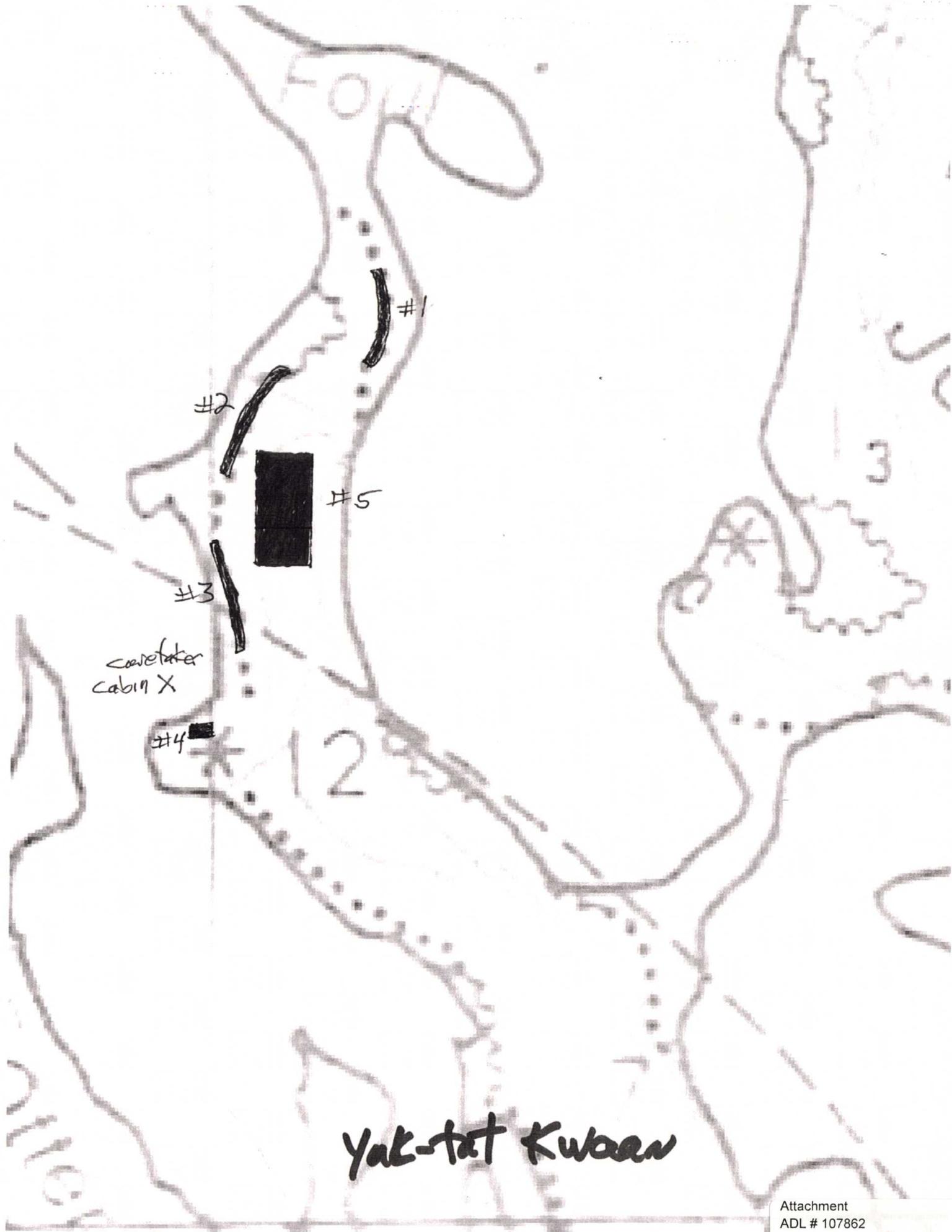
Intertidal Site 1
 425'X15'=6,375 ft.²
 .15 acres

Intertidal Site 2
 1340'X20'=26,800 ft.²
 .62 acres

Intertidal Site 3
 1028'X20'=20,560 ft.²
 .47 acres

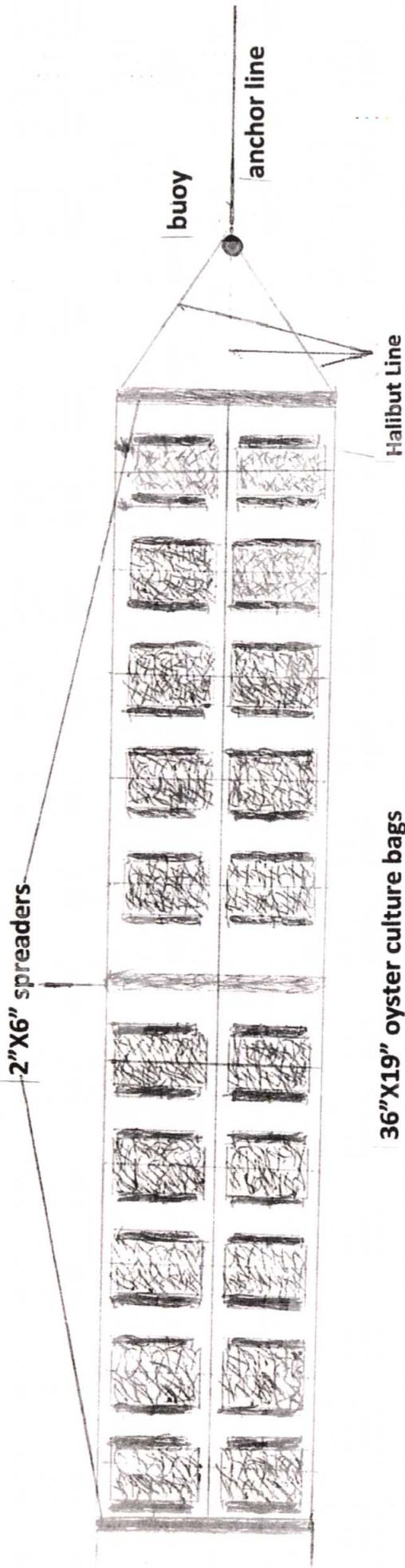
Khantaak Island
 Upland owner: Yak-Tat Kwaan, Inc.





Floating Bag Culture System

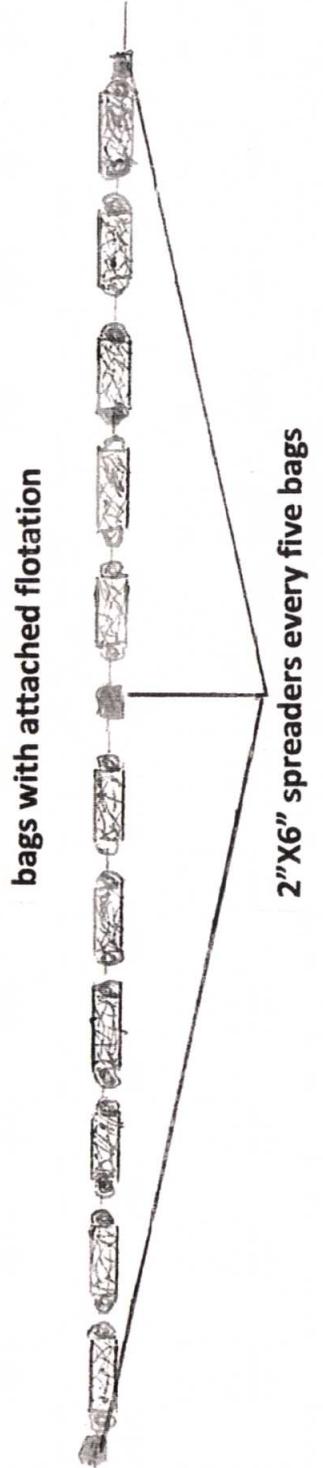
Top View



36\"X19\" oyster culture bags

flotation attached to each side of bags (high density foam)

Side View



Floating bag construction

- Open ended bags are closed with zip ties.

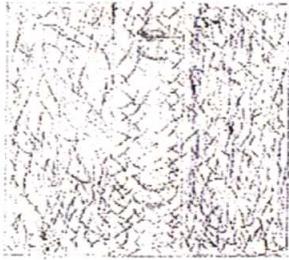
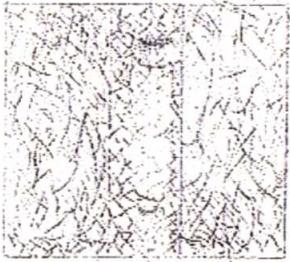
- Floats are secured tightly with zip ties.

- Bridals attach bags to longlines. For bridals, a line going through bag with longline snaps on either end.

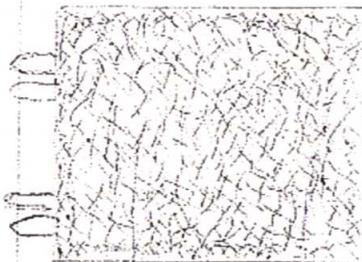
- The open end will be sealed with snaps.



Top View

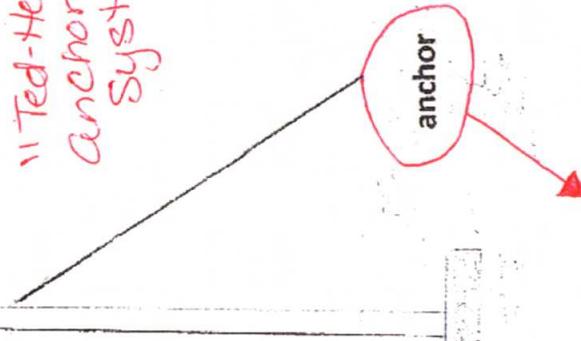


36"X19" oyster culture bags
(two bags clipped to poly-coated wire
with standard longline snaps)



Side View

End of wire attached to anchor buried in substrate
Wire threaded through holes drilled in 3" PVC pipe
3' PVC pipe with 10" concrete base buried 6" in substrate
Posts spaced every 10'



"Ted-Heads
Anchoring"
System

A 50 pound anchor
buried in the
Substrate.

(Notation made by ADFG,
L. Veracesi, using comments
from applicant)

Intertidal Oyster Culture System



Intertidal Bag Oyster Culture

Example of intertidal bag culture system at John Lentz's farm on Hood Canal. Flotation is provided by one gallon plastic bottles. The posts are PVC pipes anchored by steel fencing pounded three feet into the soft substrate. This won't be possible on most Alaska beaches.