

**STATE OF ALASKA
DEPARTMENT OF NATURAL
RESOURCES
DIVISION OF FORESTRY
NORTHERN REGION**



**PRELIMINARY BEST INTEREST FINDING AND DECISION
FOR
SERPENTINE ISLAND AREA TIMBER
SALES AND SITE SPECIFIC PLAN
ADL – 420671**

November, 2016

| | | |
|------|--|----|
| I. | PROPOSED ACTION..... | 1 |
| II. | STATUTORY AND REGULATORY AUTHORITY | 1 |
| III. | ADMINISTRATIVE RECORD | 1 |
| IV. | SCOPE OF DECISION | 1 |
| V. | PROJECT LOCATION, LAND STATUS, AND DESCRIPTION..... | 3 |
| A. | Location..... | 3 |
| B. | Title Status..... | 3 |
| C. | Land Use Planning, Classification, Management Intent and Guidelines..... | 3 |
| 1. | Land Use Planning | 4 |
| 2. | Classification..... | 5 |
| 3. | Management Intent..... | 5 |
| 4. | Management Guidelines Forestry | 5 |
| 5. | Management Guidelines Fish and Wildlife Habitat | 6 |
| D. | Current Access and Land Use | 6 |
| E. | Background and Description of Timber Sale Proposal..... | 7 |
| 1. | Background | 7 |
| 2. | Timber volume and sustained yield..... | 7 |
| 3. | Harvest unit design..... | 7 |
| 4. | Reforestation | 8 |
| 5. | New access design and construction | 8 |
| 6. | Appraisal method | 9 |
| F. | Resources and Management | 9 |
| 1. | Timber stand composition and structure..... | 9 |
| 2. | Stand silviculture..... | 9 |
| 3. | Topography and Soils..... | 10 |
| 4. | Agriculture | 10 |
| 5. | Wildlife habitat and harvest | 10 |
| 6. | Fish habitat and harvest, water resources, and water quality..... | 11 |
| 7. | Recreation, tourism, and scenic resources | 12 |
| 8. | Cultural Resources | 12 |
| 9. | Subsurface Resources | 12 |
| G. | Costs and Benefits..... | 12 |
| VI. | PUBLIC REVIEW | 12 |
| VII. | PUBLIC NOTICE | 13 |

| | | |
|-------|--|----|
| VIII. | ALTERNATIVES AND DISCUSSION..... | 13 |
| A. | Conduct the project as proposed..... | 13 |
| B. | Modify the project by making it smaller or larger..... | 13 |
| C. | Defer the project to a later date..... | 13 |
| D. | Cancel the project | 13 |
| IX. | RECOMMENDATION AND PRELIMINARY DECISION | 13 |
| X. | SIGNATURE | 14 |
| XI. | APPENDICES..... | 14 |

I. PROPOSED ACTION

The Alaska Department of Natural Resources, Division of Forestry (DOF) is proposing to offer for sale approximately 6,600 acres of white and black spruce, birch and balsam poplar biomass, sawtimber and fuelwood from state lands within Township 8 South, Range 9 East, Kateel River Meridian, roughly 2 ½ miles northwest of Galena, Alaska. The volume to be offered totals approximately 8.219 million cubic feet (MMCF). DOF would sell the timber in a combination of competitive and negotiated sales for commercial use over an approximate 25-year period. Personal use firewood and/or house log permit harvests will also be conducted and will be facilitated through the construction and maintenance of access to the area over the winter seasons by commercial operations. A land classification order for a co-primary designation of forestry and wildlife habitat will be submitted to the Division of Mining, Land and Water for the entire state ownership (8,571.32 acres) encompassing the sale area. The proposed timber sale is dependent on this Site Specific Plan and land classification order NC-16-001 which would implement the plan.

II. STATUTORY AND REGULATORY AUTHORITY

The Division is taking this action under the authority of

- AS 38.05.035(e) Best Interest Finding;
- AS 38.05.110-120 and 11 AAC 71, Timber Sale Statutes and Regulations; and
- AS 41.17.010-950 and 11 AAC 95 Forest Resources and Practices Statutes and Regulations.
- AS 38.04.065 and 11 AAC 55.040 Land Use Planning and Classification
- AS 38.05.300 Classification of Land

III. ADMINISTRATIVE RECORD

The Division will maintain an administrative record regarding the decision of whether or not to proceed with the action as proposed. This record will be maintained at the DOF's Fairbanks Area Office filed as ADL-420671.

IV. SCOPE OF DECISION

This preliminary best interest finding (PBIF) addresses steps one and two of a six-step process used to design, sell, and administer timber sales. This PBIF covers the sale of approximately 6,600 acres of mixed spruce/hardwood sawtimber and fuelwood from 8,571 acres of state lands within the Galena area. The following list summarizes the overall process:

Step 1: Regional planning. The Department of Natural Resources (DNR) develops area plans and state forest management plans to designate appropriate uses for state land, classify the land accordingly, and establish management guidelines for multiple use. These plans determine where timber sales are an allowed use, and what other uses must be considered when designing and implementing sales. Subsequent land use decisions must be consistent with the area plans. The area in this PBIF, however, is not covered by an area plan or management plan. Because 11 AAC 55.040 requires that land be classified prior to the disposal of an interest in state land (timber

sales) a Site Specific Plan is used to establish the classification prior to the adoption of an area plan or management plan. It is also required in unclassified land if no land use plan is scheduled for preparation in the area of the proposed activity. As such this PBIF will serve as the Site Specific Plan for the proposed timber sale.

Step 2: Best Interest Finding (AS 38.05.035(e)). The Division of Forestry must adopt a final best interest finding before selling timber. A best interest finding is the decision document that:

- Establishes the overall area within which the timber sale may occur,
- Determines the amount of timber that will be offered for sale and the duration of the sale,
- Sets the overall harvest and reforestation strategy for the sale area,
- Determines whether the sale proposal complies with the Alaska Constitutional requirement to manage for sustained yield by evaluating the amount of timber in the sale and the annual allowable cut for the affected area,
- Selects the appropriate method of sale (i.e., competitive or negotiated sale), and
- Determines the appraisal method that will be used to determine the sale price.

The Preliminary Best Interest Finding (PBIF) is intended to provide sufficient information for reviewers to ensure that the best interest of the State will be served by the proposed action.

This PBIF covers the decision to sell approximately 6,600 acres of mixed spruce/hardwood saw-timber and fuelwood from state lands within the Galena area in the form of competitive and negotiated sales for commercial and personal use. After agency review of the PBIF and subsequent public review of the PBIF, DOF will review comments, make changes as appropriate, and issue a final best interest finding. A person affected by the final decision who provided timely written comment or public hearing testimony on the preliminary decision may appeal it, in accordance with Alaska Administrative Code 11 AAC 02.

Step 3: Five-year Schedule of Timber Sales (AS 38.05.113). The Fairbanks Area Office prepares a Five-year Schedule of Timber Sales every other year. The Schedule identifies proposed sales, including their location, volume, and main access routes. The Five-year Schedule is a scoping document that provides an opportunity for public, agency, and industry to identify potential issues and areas of interest for further consideration in the Forest Land Use Plan. Proposed timber sales within the area covered by this PBIF must appear in at least one of the two Five-year Schedules preceding the sale. The proposed sale of timber within the area covered by this PBIF appears on the current Fairbanks Area Office's Five-year Schedule of Timber Sales for Fiscal Years 2016-2020. This sale NC-1607 Serpentine #1 is for 631.5 acres. Subsequent sales will be listed in future Five-year Schedule of Timber Sales.

Step 4: Forest Land Use Plans (AS 38.05.112). Prior to authorizing harvest of timber on any area greater than 10 acres, the DOF must adopt a site-specific Forest Land Use Plan (FLUP) for the harvest area. DOF will prepare FLUPs for harvest areas within the overall sale area covered by this best interest finding. FLUPs specify the site, size, timing, and harvest methods for harvest units within the sale area. FLUPs also address site-specific requirements for access construction and maintenance, reforestation, and multiple use management. Draft FLUPs will be based on additional field work, agency and community consultation, and site-specific analyses by the

DOF, and are subject to public and agency review. The first FLUP issued for the timber sale area is scheduled for NC-1607 Serpentine #1.

Step 5: Timber sales and contracts. Following adoption of the final best interest finding, and completion of the FLUPs, DOF will offer the timber for sale by auctioning competitive sales and negotiating some sales with purchasers. The Division will sign a contract with the winning bidder for each sale. The contract will include stipulations to ensure compliance with the best interest finding, FLUP, and statutory requirements.

Step 6: Sale administration. DOF administers timber sales and conducts field inspections to ensure compliance with the final best interest finding, FLUP, timber sale contract, and applicable laws, including the Alaska Forest Resources and Practices Act and Regulations (AS 41.17 and 11 AAC 95), and forest management statutes and regulations in AS 38.05 and 11 AAC 71.

V. PROJECT LOCATION, LAND STATUS, AND DESCRIPTION

A. Location

This PBIF covers 6,600 acres of timberland within an 8,571-acre perimeter of state land ownership west of Galena, Alaska. State land within this area includes all or portions of five Yukon River islands beginning four miles downriver from Galena. The islands from east to west include Serpentine, Lark, Jimmy, Cook and the eastern two thirds of Hen Island. There is also a strip of land in portions of three sections along the north bank of the river. A Native allotment is an inholding within this area. The project area continues along the south bank of the river and includes portions of nine sections. A navigable slough originating from Pilot Mountain Slough extends into the center of this area. The project area is bounded on the west, north and south by Doyon Limited Regional Corporation owned land. To the east, the project area is bounded by Gana-A'Yoo, Limited Village Corporation land.

The project area is located within the following 25 sections: Sections 4-11, 14-23, 26-27, 29-32, and 35 in Township 8 South, Range 9 East, Kateel River Meridian (KRM), Alaska.

This sale area is found on USGS quadrangle maps: Nulato C-2, C-3, D-2 and D-3 (See attached maps in Appendix B).

B. Title Status

The proposed timber sale area is on General State land in portions of a single township. The acquisition authority and patent information is as follows;

| Township & Range | Acquisition Authority | Patent Number |
|------------------|-----------------------|---------------|
| T 8 S, R 9E, KRM | GS-2353 – Patented | 50-91-0442 |

There are no title restrictions beyond standard Federal reservations for ditches and canals on the parcels proposed for harvest.

C. Land Use Planning, Classification, Management Intent and Guidelines

1. Land Use Planning

The proposed area is not within any state area plans or municipal plans (this area is not within a municipality). As such, there are no applicable zoning issues. In lieu of detailed land use planning documents, other land management plans in effect for the vicinity are described below. The timber sale is designed to be consistent with the management intent of these plans.

The Alaska Interagency Wildland Fire Management Plan is a statewide planning document with specific response levels covering the project area. This plan describes the level of firefighting suppression response by four fire management options (Critical, Full, Modified, Limited). The intent of fire management is to identify areas where wildland fire can be allowed or managed fires can be used to reduce costs of fire suppression, reduce the risk of damaging fires and maintain the natural diversity and resilience of the land. In the plan, the subject lands east of the Yukon River including Serpentine Island itself fall into the “Critical” protection category. A “Critical” management option provides the highest priority for suppression actions and assignment of available firefighting resources. Lands in the wildland urban interface where there is an immediate threat to human life, currently or routinely inhabited property and physical developments qualify. Generally, the “Critical” designation immediately surrounds most towns and villages. Mitigation measures to reduce the wildland fire risks including mechanical fuel treatments and prescribed fire as appropriate are emphasized. “Full” management option areas are a high priority but are below wildland fires within or threatening a “Critical” management option. Project area islands other than Serpentine Island and lands north of the Yukon River are in Full protection. A “Full” management option provides for protection of cultural and paleontological sites, developed recreational facilities, physical developments, administrative sites and cabins, uninhabited structures, high-value natural resources including timber, and other high-value areas that do not involve the protection of human life and inhabited property. Mitigation measures to reduce wildland fire risks and promote healthy productive ecosystems are encouraged. “Modified” management option areas balance acres burned with suppression costs and, when appropriate, use wildland fire to accomplish land and resource management objectives. Site specific areas that warrant higher levels of protection may occur within Modified areas. Project area lands south of the Yukon River have been designated Modified protection.

Gana-A’Yoo, Limited, the local village corporation has developed a Forest Stewardship Plan through the United States Forest Service State and Private Forestry Division. This plan provides detailed forest information to guide forest management activities on corporation lands. The Tanana Chiefs Conference Forestry Program has produced a forest inventory which contains timber type maps and timber data used as the basis of timber descriptions in the plan. Corporation lands that surround the community of Galena are recognized as having potential for providing forest resources for wood heating and other uses. Management of these stands also provides benefits to shareholders in terms of jobs, and stable heating costs. Gana-A’Yoo, Limited’s landowner objectives are compatible with the state’s including: promotion of the growth and health of forests that will become the basis for a sustainable forest based business, enhancement and protection of wildlife

habitat, maintenance of water quality and compliance with the Alaska Forest Resource and Practices Act (FRPA). It is expected that timber sales will be coordinated with Gana-A'Yoo Limited's sale offerings where beneficial.

The United States Fish and Wildlife Service manages the Innoko Wildlife Refuge west and the Koyukuk Wildlife Refuge north of the state and Native Corporation boundaries. Prior to conveyance of lands to the state, the Innoko Refuge included the islands and land south of the Yukon River within the project area. Refuge lands are managed for the conservation and where appropriate restoration of fish, wildlife and plant resources and their habitats. Management activities include providing for the subsistence harvest of firewood and house logs and where applicable the manipulation of wildlife habitat to maintain or improve conditions for selected populations, to control invasive plant species, or to manage fire fuel loads. Habitat manipulation may be achieved by mechanical and manual methods including the use of fire. Mechanical treatment could include mechanical removal, crushing, cutting or mowing. Where applicable, State and Federal guidelines for timber management are followed. Management objectives for timber and habitat are compatible with this preliminary best interest finding.

2. Classification

Without a state area plan having been written for this area a land classification order for a co-primary designation of forestry and wildlife habitat under Alaska Administrative Codes 11 AAC 55.070 (Forest Land) and 11 AAC 55.230 (Wildlife Habitat Land) will be submitted to the Division of Mining, Land and Water for the entire state ownership (8,571.32 acres) encompassing the sale area. Land classified forest is land that is or has been forested and is suited for forest management because of its physical, climatic, and vegetative conditions. Land classified wildlife habitat is land which is primarily valuable for 1) fish and wildlife resource production, whether existing or through habitat manipulation, to supply sufficient numbers or diversity of species to support commercial, recreational, or traditional uses on an optimum sustained yield basis and 2) a unique or rare assemblage of a single or multiple species of regional, state, or national significance.

Regulations within 11 AAC 55.040 state that until land has been classified, a disposal or transfer of state land or an interest in land, including timber and materials, will not be allowed except for the sale to an individual purchaser in a calendar year of up to 10 thousand board feet of timber. With this restriction on the amount of yearly volume able to be offered, management objectives for the proposed timber sale would not to be met.

3. Management Intent

The project area will be managed to allow for multiple use and to protect access and public resources including habitat, recreation, water quality, watersheds, scenery and trails.

4. Management Guidelines Forestry

- Biomass for Public Purposes. Support actions to develop sustainable sources of energy for meeting community needs from renewable woody biomass obtained through harvest or habitat management activities.

- Personal Use Timber. Provide timber including house logs and firewood to meet the needs of Alaskans. Personal use areas will be provided on a demand basis and when the operational costs of administering this program are satisfactory.
- Support Local Timber Industry. Provide timber to meet local communities' need. Timber sales will be provided on a demand basis and when the operational costs of administering this program are satisfactory.
- Economic Opportunities. Provide for economic opportunities and stability for forest based businesses by allowing the use of state lands. Also, to provide revenue to the state from stumpage receipts and adding to the state's economy through wages, purchases, jobs and business.
- Forest Health. Improve forest health and vigor by harvesting and replacing mature stands with healthy new stands of regrowth, while protecting and maintaining other resource values.
- Comply with the Alaska Forest Practices Act and regulations.

5. Management Guidelines Fish and Wildlife Habitat

- Wildlife Habitat Management. Seek to create, enhance and maintain wildlife habitat consistent with forest management and wildlife production by providing a natural range of stand ages and seral stages that reflects the needs of the variety of wildlife species that use the project area.
- Mitigate Habitat Loss. When resource development projects occur, avoid or minimize changes in the quality of fish and wildlife habitat. Consult with ADF&G as part of the forest land use plan process.
- Habitat Manipulation. In consultation with Alaska Department of Fish and Game, alter habitat through water control, timber management practices or other measures to improve habitat for fish and wildlife species. Habitat manipulation may be achieved by mechanical and manual methods including the use of fire either at the harvest unit level of broadcast and slash burning or on a larger scale by the use of wildland fire consistent with objectives of the Alaska Interagency Fire Management Plan (modified and possibly full management option areas). Mechanical treatment could include mechanical removal, crushing, cutting or mowing.

The proposed harvest units are designed to be consistent with management intent, including setbacks to avoid adverse impacts on lake(s) and stream(s) and sustained yield management of forest resources.

D. Current Access and Land Use

This area is currently accessed via a winter trail that extends west from Galena. The trail generally follows the route of the Fort Gibbon-Kaltag Trail (RST 287), which follows the north bank of the Yukon River. This trail is listed in Alaska Statute (AS19.30.400(d)) as a qualified RS2477 right-of-way. Harvest activities conducted by Sustainable Energy for Galena, Alaska (SEGA) have upgraded the trail and constructed a new winter road spur that ends just east of Serpentine Island. SEGA currently has timber harvest operations on Gana-A'Yoo, Limited owned lands adjacent to the project area. These operations all rely on winter roads for access.

The Division of Mining, Land and Water (DMLW) manages all the land within the harvest areas. Non-state lands in the vicinity of the proposed project area include a Native allotment inholding along the north bank of the Yukon River and village and regional corporation lands. The proposed timber sale is not anticipated to have any adverse impacts on private property or land use in the general vicinity.

Trap lines and recreational trails likely occur within the general vicinity. Local residents and hunters use this area for sport hunting. Subsistence fishing occurs on the Yukon River and its tributaries.

E. Background and Description of Timber Sale Proposal

1. Background

Sustainable Energy for Galena Alaska (SEGA) contacted the Division of Forestry in July 2015 with a request for a timber sale in the Serpentine Island area of the Yukon River. This request was the result of an expansive planning effort beginning in 2012 and working in collaboration with the City of Galena, Loudon Tribal Council and the Alaska Energy Authority to develop a woody biomass district heating project for the Galena Interior Learning Academy (GILA) campus. Prior to the timber sale request, DOF conducted a forest inventory of state lands in the vicinity of Galena, including the project area, and developed a detailed timber type map with corresponding volume per acre inventory data. The inventory forms the basis of the timber volume and sustained yield estimates shown below. DOF has reviewed existing land management plans, considered markets for the timber, and designed this proposal to provide an adequate supply of timber from state land within the project area, while protecting the fish, wildlife, and water resources, and avoiding impacts to local access, recreation uses and cultural sites. Supply of state owned timber in the Galena area is expected to complement and enhance timber being offered by Gana-A'Yoo village corporation. By coordinating sale efforts, more efficient utilization of harvest access routes can be accomplished.

2. Timber volume and sustained yield

The project area has an estimated volume of 9,215,000 cubic feet of white and black spruce, birch, and balsam poplar sawtimber and poletimber on approximately 6,600 acres of land. Based on the DOF inventory of the land and timber base, an annual allowable cut (AAC) for state forest lands in the middle Yukon area is calculated at approximately 1,200 acres of harvest annually. The Sustained Yield (SY) volume is calculated at about 1,100,000 cubic feet annually. Harvest duration for this proposal is expected to occur over a 25-year period and will allow DOF to meter the volume offered for sale without exceeding the annual allowable cut.

3. Harvest unit design

Unit size is anticipated to range between 0.5 acres and 200 acres. Partial cuts, shelterwood, and clearcuts will be utilized to harvest the timber volumes. The specific silviculture prescription will be identified in the FLUPs. Sale unit boundaries will be located along naturally occurring vegetative type changes within the area. The units will not be

laid out in a block fashion. Islands of un-cut trees will be left in the units to maximize natural regeneration, and provide for wildlife habitat and visual screening. DOF will consult with ADF&G on leave island placement, size and shape. The sale areas will be designed to encourage harvest of all species in the poletimber and sawtimber size classes within the designated harvest units. All harvests shall be managed on the landscape with the intent to minimize impacts to other land uses and will be subject to FRPA and regulations

4. Reforestation

Passive, natural, reforestation will be used due to expected recolonization of the area by hardwood species. Birch is expected to establish in the upper terrace locations and balsam poplar will recolonize riparian and moist sites. Both of these species regenerate from seed and from sprouting. White and black spruce will naturally regenerate as well, but due to slower initial growth and shade tolerance will fill in over a longer time period. Scarification may be used to create a more receptive bed for natural regeneration. Sometimes harvest equipment use itself will provide suitable scarification. This methodology has been proven to be a successful reforestation strategy in the upper Yukon region where biomass harvesting in balsam poplar stands has resulted in abundant natural regeneration. The use of leave trees and harvesting unit siting to take advantage of seed fall will help ensure adequate natural regeneration.

5. New access design and construction

Roads constructed during timber harvest operations are designed and utilized as temporary winter access routes to conduct specific silvicultural activities on the land. Ancillary use of the roads by the general public occurs, but is managed as a matter of safety during silvicultural operations or to protect the resource values of the area. Routes may be selected that are less likely to be used during non-frozen months to avoid surface damage by off-road traffic. Proposed forest access roads will initially be constructed to a secondary winter road standard. A total of 24 miles of winter road are proposed within the project area. Construction techniques for winter access routes depend on the range of terrain encountered, and may include clearing vegetation and ground cover needed to provide a level running surface. Road surfaces may be composed of frozen mineral soil, packed snow, ice, or surface organics. Winter roads will be constructed and maintained to minimize degradation to vegetation, substrate, and hydrology and will generally mimic Gana-A'Yoo winter road construction techniques which have been approved in their current 2016 FRPA Detailed Plan of Operations. In all cases, winter road construction will protect water quality by adherence to standards established in the Forest Resources and Practices Regulations. The roads will be constructed to produce running surfaces 12-16 feet wide.

Proposed road locations are generally on flat and/or rolling topography with low potential to erode during spring break-up and rainy weather. Culverts, rolling dips or water bars will be placed or constructed where necessary to prevent erosion. Roads will be built and maintained consistent with the best management practices in the Alaska Forest Resources and Practices regulations (11 AAC 95).

The proposed access routes will cross the Yukon River (Type III-B) and tributaries. These ice crossings will require a Fish Habitat Permit from the Department of Fish and Game, Division of Habitat. Secondary winter access roads that could be used for future harvests of timber will be left open and actively maintained. This may be modified in the future as community demands are heard or market forces and/or budget constraints require closure. Ice bridge construction, road maintenance and road closure actions will be conducted consistent with the best management practices in the Forest Resources and Practices regulations.

It is anticipated that preliminary access will use the SEGA established winter road spur route to Serpentine Island. This route is proposed to be extended roughly paralleling the Fort Gibbon-Kaltag Trail route to access state land in sections 4, 5 and 6 along the north bank of the Yukon River. The trail route will not be altered substantially and will remain consistent with current/past use and character. Only minimal clearing and maintenance will be performed. Access to the project area south of the Yukon River and the islands will require the construction of ice crossing routes across the river. This access will extend west from the Serpentine Island route at appropriate areas on the river where ice thickness is optimal. About 15% of the proposed harvest area is north of the Yukon River, 30% on the islands and the remainder is south of the Yukon River. Access agreements will be negotiated with Gana-A'Yoo, Limited for road access routes that cross village corporation lands.

6. Appraisal method

Based on transactional evidence and market demand for biomass, saw logs/ cabin logs and fuelwood volume, the DOF will apply a value for those delivered products. The State will be compensated based on that market rate minus the estimated total development cost. The DOF will factor in local demand, timber type, amount of decay, and economies of scale in its decision to differentiate the biomass from cordwood and sawlog volumes in the FLUP(s).

F. Resources and Management

1. Timber stand composition and structure

The proposed harvest area is a mixture of mature white spruce, black spruce, balsam poplar and birch. An estimated 57% of the stands are mixed spruce/hardwood, 22% balsam poplar, 15% white spruce and 6% black spruce.

2. Stand silviculture

Stands have originated either from fire disturbance or flooding. Fire origin stands contain evidence of charred wood and scarred trees. The oldest mixed birch-spruce stands (150-200 years) are rather decadent and have little height growth. Some loss is occurring due to rot, bud worm and bark beetles. The mixed spruce-birch-balsam poplar stands are generally thriftier, show more diameter and height diversity and have more advanced spruce regeneration. These sites are generally on active river floodplains.

White spruce (*Picea glauca*) occurs in pure stands and in mixed stands with balsam poplar (*Populus balsamifera*), birch (*Betula papyrifera*) and black spruce (*Picea mariana*). It attains its best development on well-drained to moderately well-drained silt loams. The well stocked white spruce type represents the most productive sites and is considered to be the climax vegetation on the well-drained sites. White spruce regenerates best on mineral seed beds although seed production is erratic with good seed years up to 12 years apart.

Black spruce occurs in pure stands but may have a mixture of white spruce and birch. Black spruce commonly occurs on organic soils with poor drainage, often underlain by permafrost. Fires open black spruce cones and accelerate seed release for periods of 60 days to 2-3 years, depending on fire intensity. Many of the stands are less than 25 feet in height but may approach poletimber size on better sites.

Paper birch occurs in pure stands but also within a mix of white spruce, black spruce and other hardwoods. Birch attains its best development on well-drained silt loam soils. The stands generally result from fires where adjacent unburnt birch trees spread considerable amounts of seed on the newly exposed sites. Birch can also regenerate vegetatively via stump sprouting.

Balsam poplar occurs in pure stands but also within a mix of white spruce and other hardwoods. Generally, along with the white spruce sawtimber types these are the most productive. Balsam poplar attains its best development on actively flooded areas adjacent to rivers and streams. The largest trees in the project area are located on the islands. Stand development results from flooding where abundant seeding can allow for quick regeneration. Balsam poplar can also be regenerated vegetatively via root sprouting.

3. Topography and Soils

The proposed sale will be designed and managed to prevent significant impairment of the land and water with respect to renewable resources (AS 41.17.060(c) (5)). The timber sale occupies an extensive area of mostly level ground where numerous sloughs and meadows are present. Alluvial silt loam soils are common and permafrost is present in discontinuous patterns.

4. Agriculture

No agricultural use or grazing is known to occur within the area.

5. Wildlife habitat and harvest

Most common species of wildlife that are normally found in interior Alaska forests inhabit the area. The timber sale area will be designed to minimize the impacts on wildlife habitat. The United States Fish and Wildlife Service and Alaska Department of Fish and Game have conducted moose surveys since 1983 within the Pilot Mountain trend count area. The project area is within this count area which is managed for maximum consumptive moose harvests. The timber sale will be designed to promote regrowth of willow and young hardwoods in older habitat presently not suitable for providing moose browse. Techniques such as felling and crushing willows will enhance habitat. Reten-

tion of fallen trees and root wads in sale units can provide cover for prey animals attractive to small carnivores pursued by trappers. DOF will work with ADF&G to design units to improve habitat conditions and will detail methods in the FLUP process.

Small animal species typically recolonize harvest units quickly. Successful trapping can occur in harvest area edges, especially for lynx and fox due to the resulting high hare and vole populations. Grouse, ptarmigan and other birds are expected to use new growth in the harvest areas for food and habitat as well.

Islands of uncut forest within timber sale units will provide mature forest conditions attractive to birds and mammals that use late-seral features, such as insectivorous song birds, raptors, or owls that use cavity trees and spruce rust brooms for nesting or resting and tall snags for hunting perches. Such features could be left standing in timber sales, but they are more subject to blow down without surrounding trees and may have value as fuel wood. Interior forest conditions in uncut islands can also provide habitat for other wildlife or their prey, adding to biological diversity of the managed forest that will be accessible to the public at least seasonally on forest roads.

6. Fish habitat and harvest, water resources, and water quality

Perennial and seasonal surface waters, lakes, and many ponds lie within the project area. The main feature however is the Yukon River; it is a Type III-B waterbody. One named tributary, Bear Creek, a Type III-A waterbody joins the Yukon at the northwest corner of the project area. Other unnamed sloughs especially ones flowing into Pilot Mountain Slough in the southern project area vicinity are also likely Type III-A waterbodies. There will be no harvest within 100 feet of these anadromous waterbodies consistent with the FRPA and regulations.

To protect water quality of non-fish bearing waterbodies a combination of retention areas, directional felling, and removal of logging debris from stream channels or ponds will be required. In addition, low value and non-merchantable timber will be left along the waterbodies that are not identified as anadromous or high value resident fish streams.

If access requires Title 16 (Fish Habitat) Permits from the ADF&G Division of Habitat to construct access to the project area, they will be pursued as needed and according to statutory requirements.

Signage, delineating the riparian areas, public information and stipulations noted on personal use firewood permits will be used to educate and inform the public regarding areas open and closed to harvesting. Additionally, DOF personnel will be performing field monitoring and inspections of these areas as public firewood harvesting progresses.

An instream flow reservation (LAS 29870) has been issued to the Alaska Department of Fish and Game for this reach of the Yukon River and adjacent waters that have surface connections to the main channel. Any water uses that might be associated with timber operations or ice road construction would occur at such low rates compared to the flow reservation that there would be no effect on fish or wildlife or their habitats.

Subsistence and some commercial fishing occurs on the Yukon River and tributaries.

7. Recreation, tourism, and scenic resources

This timber sale is expected to result in no adverse changes to recreational use of the area. Timber sale access may provide winter road access for dispersed recreational opportunities. Due to topography and the location of the timber sale it will not be visible to the village of Galena. Riparian buffers will visually screen units from Yukon River and interconnected slough boat traffic. There is no known tourism in the proposed timber harvest area.

8. Cultural Resources

The DOF works with the State Historic Preservation Office (SHPO) to identify and avoid known cultural, historic or prehistoric sites in planning the proposed access routes and harvest areas. If additional archaeological sites are identified, proposed harvest areas and road locations will be appropriately adjusted to avoid conflicts. If any historic or archaeological sites are encountered during road construction or harvest activities, DOF will immediately inform SHPO and take action to protect the findings.

9. Subsurface Resources

There is no known current mining activity in the proposed project area.

G. Costs and Benefits

Timber sales have traditionally created economic benefits to nearby communities. The business communities will receive direct economic benefits by providing support services for the operators such as fuel, food, housing, medical and miscellaneous supplies. The residents of middle Yukon River communities will receive a direct benefit through employment opportunities and wages paid by the operator during the course of the timber harvest and chipping operations. No significant negative economic effects are anticipated upon the timber markets, local or regional, as result of this proposed action. Harvest of the proposed timber volume will provide a benefit to the local economy due to the availability of low-cost fuel for heating of the GILA campus buildings.

VI. PUBLIC REVIEW

The PBIF was reviewed by state agencies for a one-month period between July and August of 2016. A revised PBIF incorporating these comments was drafted and the public is invited to review and comment on this Preliminary Best Interest Finding. Objections or comments pertaining to the proposed action must be received in writing by the DOF Fairbanks Area Office by **4:00 pm January 18, 2017** in order to ensure consideration for review. Commenters are encouraged to confirm receipt of the comments by the DOF prior to the submission deadline. Comments should be mailed to the State of Alaska, Division of Forestry, 3700 Airport Way, Fairbanks AK 99709 or emailed to douglas.hanson@alaska.gov. For more information, you may contact Douglas Hanson at 907-374-3755 or by email at douglas.hanson@alaska.gov. To be eligible to appeal

the final decision, a person must have provided written comment on this Preliminary Best Interest Finding by the deadline of: **4:00 pm January 18, 2017.**

VII. PUBLIC NOTICE

The preliminary best interest finding and decision and site specific plan were publicly noticed in compliance with AS 38.05.945. The notice was posted on the Alaska Online Public Notice System. Mailed notices were distributed to a mailing list maintained by the Fairbanks Area Office and public notices were sent to the Galena post office.

VIII. ALTERNATIVES AND DISCUSSION

A. Conduct the project as proposed

The proposed sale meets the objectives of the Five-year Schedule of Timber Sales and DNR's constitutional mandate, provides royalties to the State, meets the silviculture objective of improving forest vigor, and provides biomass and other forest products to middle Yukon River communities. The proposed sale also creates additional local jobs due to the combination of road building, logging, trucking, and milling.

B. Modify the project by making it smaller or larger

The estimated volume and acreage of timber to be harvested as stated in this Preliminary Best Interest Finding is designed to accommodate the existing market in the vicinity of Galena. There is little opportunity to increase the size of the proposed project because most of the commercial sized timber was included in this proposal. Other state lands are available for harvest but are 18 miles upriver near the Yuki River. At this time this timber was deemed not feasible due to access development costs. Decreasing the size of the project would potentially not allow an installed biomass facility to operate at its intended design capacity over time.

C. Defer the project to a later date

Deferring harvest to a later date would result in economic hardship for the community that is installing a biomass project that has seen well over \$10,000,000 in investment. Coordination with harvest activities on village corporation lands would also face increased costs as timber stands in the proximity to current harvest would have to be re-entered requiring access reestablishment.

D. Cancel the project

Canceling the project would not meet the objectives outlined for this management action. The timber would not be utilized, biomass would not be produced and there would be no contribution to the State and local economies.

IX. RECOMMENDATION AND PRELIMINARY DECISION

After due consideration of all pertinent information and alternatives, the Alaska Department of Natural Resources has reached the following Preliminary Decision: **To conduct the project as proposed and offer for sale approximately 6,600 acres of timber to provide biomass,**

sawtimber, fuelwood and personal use firewood to Galena and the surrounding area as proposed and described in this PBIF. Harvest activities will follow this site specific plan which will be implemented under land classification order NC-16-001 for the entire state ownership of 8,571.32 acres that encompasses this sale. The DOF finds that this preliminary decision satisfies the objectives stated in this document and it is in the best interest of the State to proceed with this action under its authority in AS 38.05.035(e) (Powers and Duties of the Director) and AS 38.05.110-120; 11 AAC 71 (Timber Sale Statutes and Regulations; and AS 41.17.010-.950 and 11 AAC 95 Forest Resources and Practices Statutes and Regulations).

A person is eligible to participate in any appeal or request for reconsideration to the final finding if s/he has submitted comment to the preliminary finding and decision during the comment period.

If you have any questions, please contact Douglas Hanson, Statewide Inventory Forester, via email, douglas.hanson@alaska.gov or by phone at 907-374-3755

X. SIGNATURE



Douglas Hanson Statewide Inventory Forester
Alaska Division of Forestry

11/21/16

Date

XI. APPENDICES

Appendix A: State Agency Comment Matrix – Preliminary Decision and Best Interest Finding

Appendix B: Maps

Map I Galena Vicinity and Land Ownership

Map II Galena Vicinity Wildland Fire Management Options

Map III Sustained Yield Inventory Units

Map IV Proposed Winter Access

Map V Timber Types

Appendix C: References

Appendix D: Land Classification Order No. NC-16-001

APPENDIX A
State Agency Comment Matrix – Preliminary Decision and Best Interest Finding

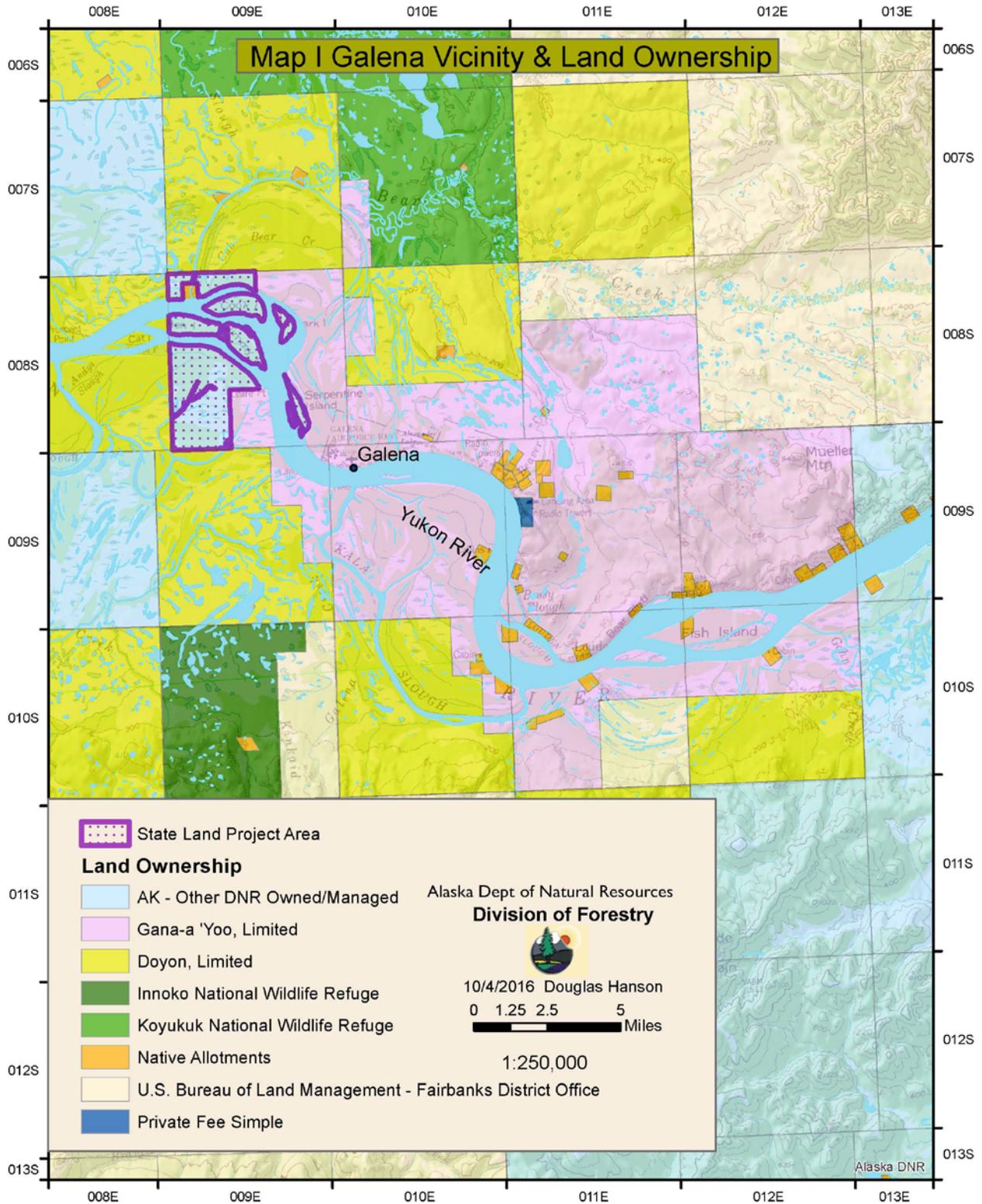
The following comments were received during the agency comment period on the Serpentine Island Area Timber Sales.

| Organization | Author | Location |
|--|--|-------------------|
| Office of History and Archaeology | McKenzie S. Johnson, Judith E. Bittner | Anchorage, Alaska |
| Department of Environmental Conservation | Kevin Hanley | Juneau, Alaska |
| Department of Fish and Game | Audra L. J. Brase | Fairbanks, Alaska |
| Division of Mining, Land and Water | Adam Leland | Fairbanks, Alaska |

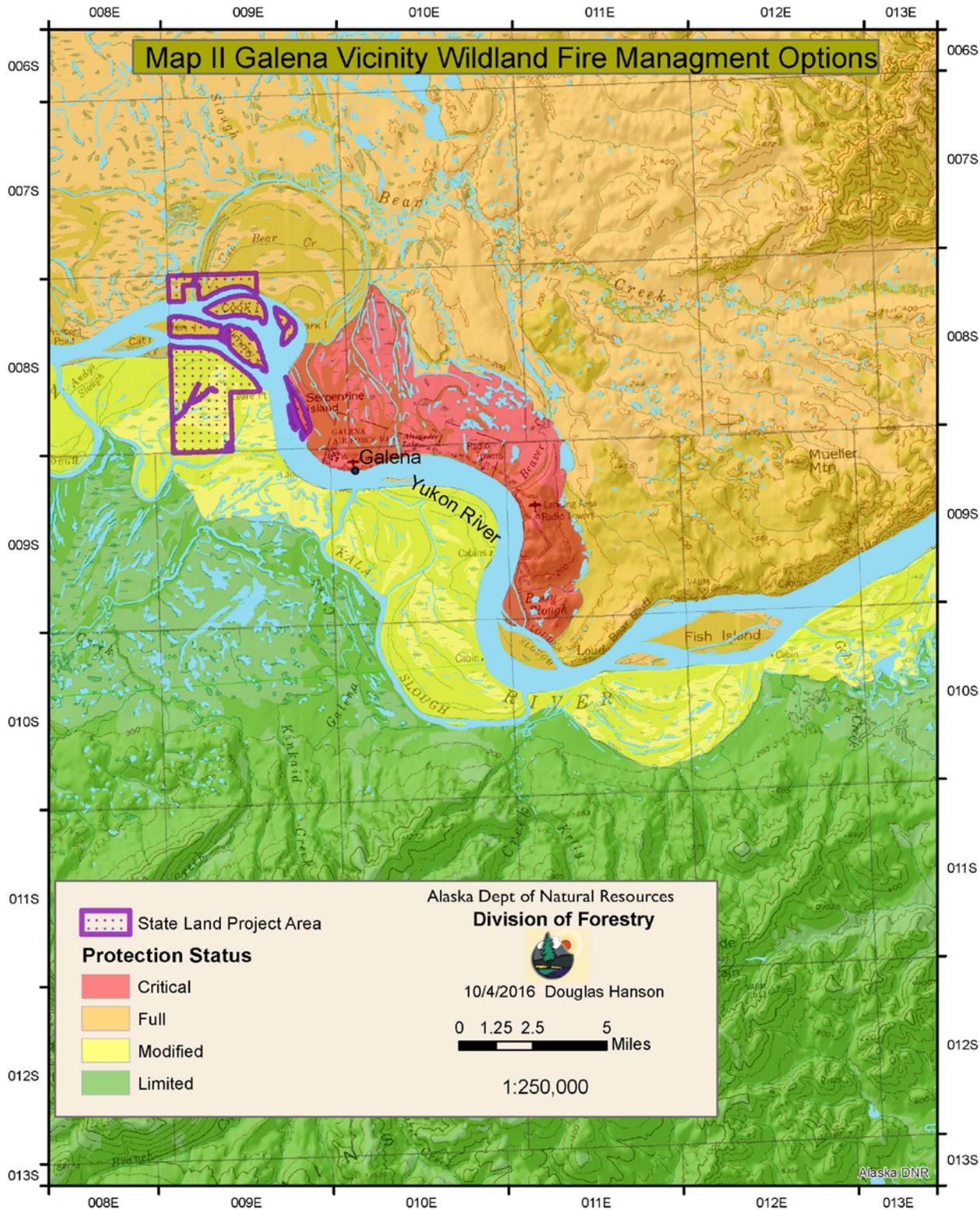
| Commenter | Received | Comment | Action |
|--|-----------------|---|--|
| Office of History and Archaeology Mackenzie Johnson | 7/13/2016 | Requested clarification on type and length of access routes and effects on the Fort Gibbon-Kaltag Trail (RST 287). | Indicated total number of access miles and reiterated winter-only access. Added information on minimal disturbance of the RST route because of winter construction techniques. |
| Office of History and Archaeology Judith Bittner | 7/22/2016 | State law requires all activities requiring licensing or permitting from State of Alaska comply with the State Historic Preservation Act. No concerns on the cultural resource site RST 287 (Ft. Gibbon-Kaltag Trail) because of minimal disturbance. | Concur, DOF shall comply with the Alaska Historic Preservation Act. Additional information provided that clarifies winter construction techniques along the RST 287. |

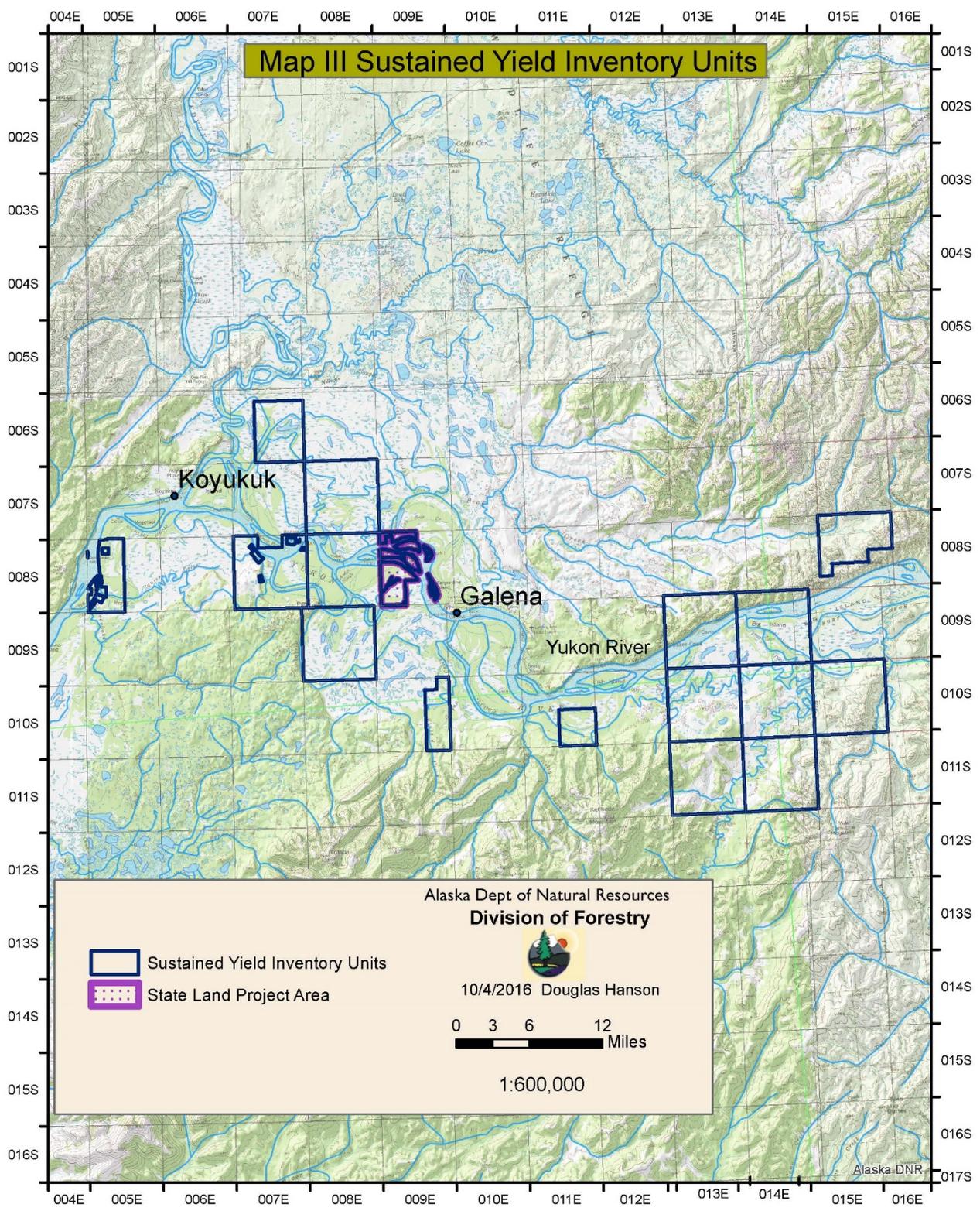
| | | | |
|--|------------------|---|--|
| <p>DEC, Division of Water Kevin Hanley</p> | <p>7/28/2016</p> | <p>No significant concerns at this time for the maintenance of water quality. Requested adherence to standards pertaining to ice bridge construction.</p> | <p>Comment recognized and recorded. DOF will ensure a Fish Habitat Permit is secured prior to river crossing. This permit contains ice bridge construction standards.</p> |
| <p>ADF&G Audra Brase</p> | <p>7/29/2016</p> | <p>Request intermediate project review. Correction of fire management options and enhanced discussion of use of fire for wildlife habitat. Documentation of sustained yield area. Increased discussion of harvest unit design to promote habitat.</p> | <p>Addressed intermediate project review by referring this item to the FLUP process which is more site specific. Corrected fire management options and added map. Added map and reference for sustained yield area. DOF is in support of coordinating with the Division of Wildlife Conservation on harvest unit design to maximize benefits to wildlife habitat consistent with other harvest objectives.</p> |
| <p>DNR, Division of Mining, Land and Water</p> | <p>8/17/2016</p> | <p>Requested correction of legal description of project area because of typo in document. Reiterated that the Resource Assessment & Development Section (RADS) is to be contacted for filing a classification order.</p> | <p>Changes made to correct legal description. Concur, DOF will consult with RADS on the filing of a classification order.</p> |

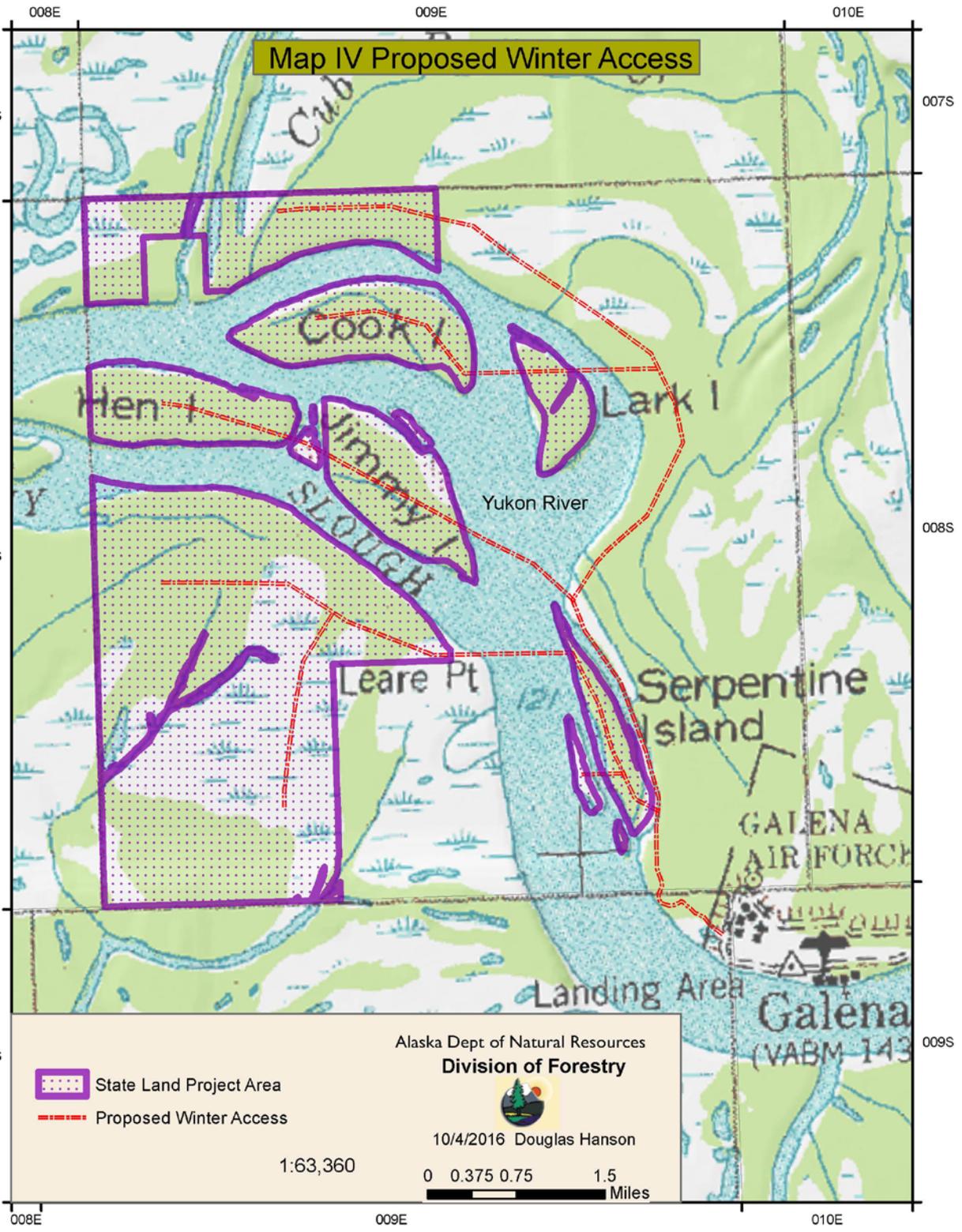
APPENDIX B Maps



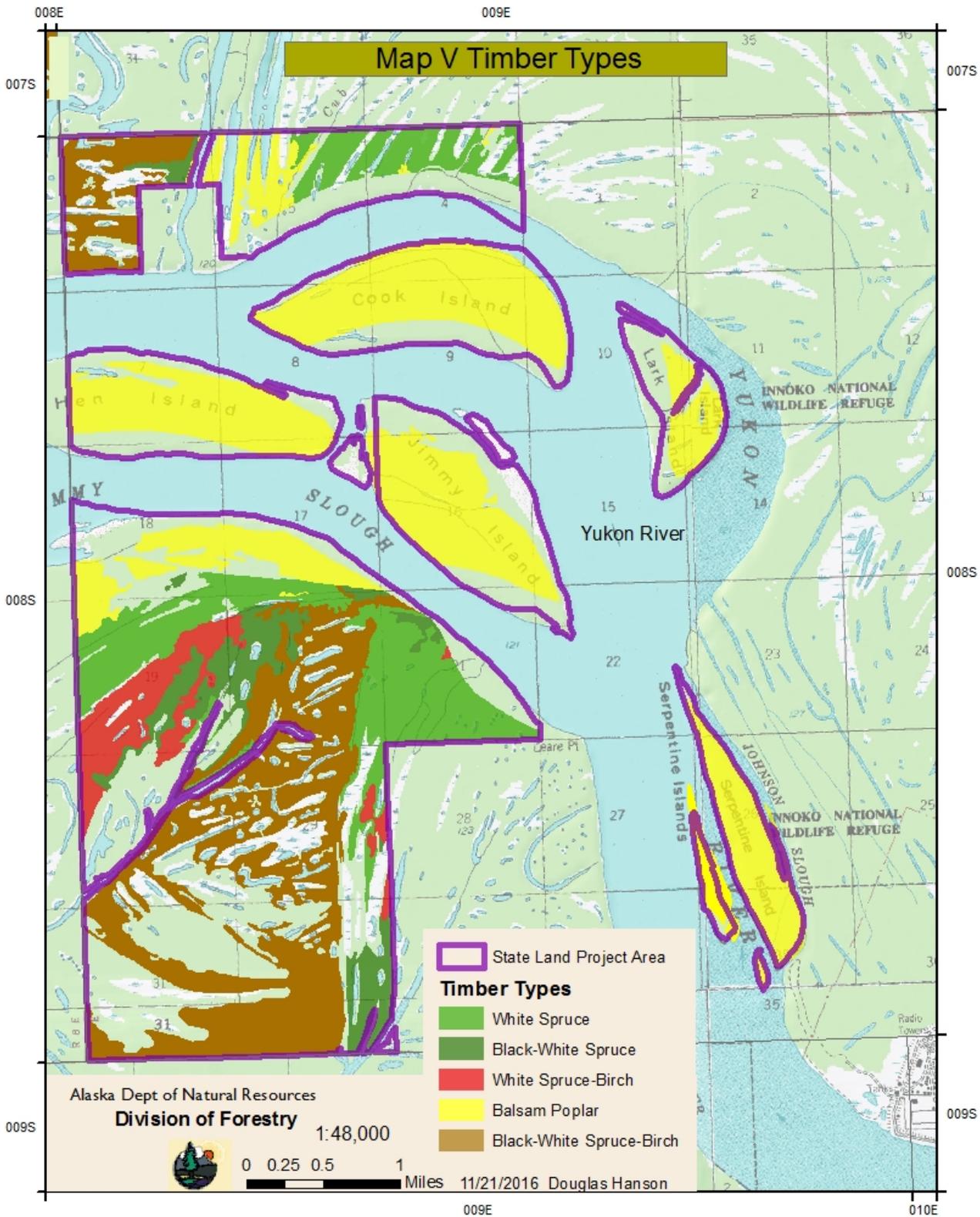
Map II Galena Vicinity Wildland Fire Management Options







Map V Timber Types



APPENDIX C

References

Alaska Department of Natural Resources, Division of Forestry, *Timber Inventory of State Forest Lands in the Middle Yukon River Area 2015*. Web site access at: <http://forestry.alaska.gov/timber/forestinventories>

Alaska Department of Natural Resources, Division of Forestry, Fairbanks Area, *Five-year Schedule of Timber Sales, January, 2015*. Web site access at: <http://forestry.alaska.gov/timber/fairbanks#fiveyear>

Bureau of Land Management-Alaska, *Alaska Interagency Wildland Fire Management Plan 2016*. Web site access at: <http://fire.ak.blm.gov/content/admin/awfcg/C.%20Documents/Alaska%20Interagency%20Wildland%20Fire%20Management%20Plan/2016%20AI-WFMP.pdf>

Forest & Land Management, Inc., *Forest Stewardship Plan Update For Gana-A' Yoo Limited Lands Along The Yukon River*, October, 2012

Tanana Chiefs Conference., *Forest Resources Gana-A' Yoo Lands Nulato and Galena Villages Alaska, 1990*. Web site access at: <https://www.tananachiefs.org/sustainability/forestry/>

U.S. Fish & Wildlife Service, *Revised Comprehensive Conservation Plan Koyukuk/Northern Innoko/Nowitna National Wildlife Refuges*, July 2009. Web site access at: <https://catalog.data.gov/dataset/revised-comprehensive-conservation-plan-for-the-koyukuk-northern-unit-innoko-nowitna-natio>

APPENDIX D
Land Classification Order No. NC-16-001

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND AND WATER

LAND CLASSIFICATION ORDER
NO. NC-16-001

I. Name: SERPENTINE ISLAND AREA TIMBER SALES SITE SPECIFIC PLAN

II. The classification in Part III is based upon the following:

A. Preliminary Finding and Decision dated November 21, 2016

Note: The area of Alaska has not had a previous land classification.

| III. Legal Description | Acreage | Acquisition Authority | Existing Classification | Classification by this action |
|------------------------|----------|-----------------------|-------------------------|-------------------------------|
| Patent 50-91-0442 | 8,571.32 | GS-2353 | None | Forestry and Habitat Land |

Patent number 50-91-0442 within Sections 4-11, 14-23, 26-27, 29-32 and 35 of Township 8 South, Range 9 East, Kateel River Meridian, containing 8,571.32 acres.

IV. This order is issued under the authority granted by AS 38.04.065 and AS 38.05.300 to the Commissioner of the Department of Natural Resources. The above described lands are hereby designated and classified as indicated. Nothing shall prevent the reclassification of these lands if warranted in the public interest.

Classified: _____
Commissioner
Department of Natural Resources

_____ Date