Here's a list of Young growth studies and young growth projects that have been implemented over the past 20 years--

In conjunction with FSL--

**TWYGS--the Tongass wide young growth study**

Implemented forest wide between 2002 and 2004, this study has 4 modules that include thinning, pruning, girdling, slash treatment and alder interplanting. The goal is to increase knowledge of the effects of precommercial treatments for various objectives, including wildlife habitat improvement, riparian restoration and timber production. The primary objective of the study is looking at returning understory vegetation to the forest floor and maintaining browse in the understory.

**POW Commercial Thinning Study**

There are 3 replicates to this study—located in Harris River, Maybeso Experimental Forest and Naukati. Each replicate consists of 5 different treatments: 1) a no treatment control, 2) thin from below, 3) thin from above, 4) a crown thinning that concentrates removal on co-dominants with some dominants removed, and 5) strip thinning. ,

The initial commercial thinning study was to take place on Heceta Island. In June 2006, after the decision to stop the Heceta Island commercial thinning project (due to logging systems issues with proposed cable), a group met to discuss the need for a replacement study and the characteristics it should have. The group consensus was that the new study should have the following characteristics:

- It should be a *least cost* operation, but not necessarily *above cost*.
- The treatment blocks (at least three total) should be on the POW road system, within 800 feet of an open road. Maybeso was identified as a site for one block.
- Ground-based yarding should be used, not cable yarding.
- Because ground-based yarding will be used, slope needs to be less than 35%.
- The project should be simple and small, preferably below the area limit for a NEPA categorical exclusion.
- Timber needs to be large enough to yield a commercial product.
- Sites with a SW-S-SE aspect would be best.

The group discussion focused on the existing objectives and how they might be expanded. The Heceta study had three primary objectives:

- Determine growth and yield response of residual trees
- Assess understory plant response to thinning
- Assess harvest-related and post-harvest damage to residual trees.

The group agreed that additional objectives were necessary for the POW CT study, including:

- Operational, physical, and economic feasibility
- Site and soil disturbance assessment
- Safety
- Slash decomposition
- Ties to industry and social benefits, value-added potential
- Study should function as both an experiment and a practical demonstration
- The group agreed that the proposed size of the treatments would be too small to include direct assessments of bird or mammal responses.

The POW commercial thinning study was offered as a stewardship contract in September 2008. Per acre unit costs varied from a low of $4800/acre (strip thin) to a high of $10,200/acre (thin from below). The operator who got the contract brought in mechanized equipment and hoped to keep the machine working on Tongass projects enough days/year to keep the machine on island. He was unable to find a market for the YG from the CT study and so was able to export half of the volume. The rest of the removed trees were moved to a rockpit for firewood. TNF was able to award a gap contract (costs were much higher than hand felling of gaps in same stand) and a contract modification to clean up a wildlife thin in Maybeso in an attempt to keep the equipment and skill on the forest. Ultimately, the feller buncher was moved off Island and out of state.

**The Young-growth wood properties study**
In order to understand the effect of precommercial thinning activities on the quality of wood fiber that may later be removed from these stands and how that quality impacts product opportunities and associated economic potential, this study occurred in nine young-growth stands that were thinned approximately 20 years ago and were identified by Forest Service personnel at the Craig, Thorne Bay, and Petersburg Ranger Districts on the Tongass National Forest. The general response of trees to thinning is slower crown recession, increased branch diameter, increased taper and reduced wood specific gravity. This project established baseline product recovery information about the volume and quality of lumber products manufactured from young-growth western hemlock (*Tsuga heterophylla* (Raf.) Sarg) and Sitka spruce (*Picea sitchensis* (Bong.) Carr.) from even-aged stands in southeast Alaska.

YG projects on the Forest (not all were awarded)—
**Winter Harbor stewardship contract**
Represents a Stewardship contract (exchange of goods for services) in Young growth. This project contained treatments in an old-growth reserve and a development LUD. A combination of cable and ground-based equipment was planned to be used to accomplish wildlife and timber objectives; issues with cable logging moved the project entirely to ground based equipment. This contract of approximately 29 acres was awarded in September 2007. The cost of the contract was approximately $6,700/acre.

**Kosciusko Island**
In 2002, the Tongass published a Draft EIS consisting of predominantly old-growth timber harvest planned for Kosciusko Island. In response to public comments and increasing interest in young–growth management the Thorne Bay Ranger District moved forward with a revised vegetation management EA that focused on YG. Due to excellent existing road access, gentle slopes suitable for ground based harvesting equipment and large acreages of commercial size trees, Kosciusko Island presented an excellent opportunity to begin programmatic young growth harvest in Southeast Alaska. The project was implemented as a GNA project with issues in implementation since it was purchaser layout (this is not recommended in the future). There are large acreages of even aged openings in this project but due to the topography and past harvest history, these types of projects are not expected to be common across the forest.

**Spit Point Beach fringe thinning project**
A 70 acre wildlife habitat thinning project to thin two beach buffer timber stands in Carroll Inlet to accelerate the development of understory forage and old-growth habitat components and to assess the effectiveness of a barge-based skyline harvest system with some support by ground based yarding to the skyline corridors. The cable system would partially suspend harvested trees within harvest units and fully suspend logs from the unit to a barge (the logging barge). Trees would then be transferred to an adjacent processing barge. By-products were estimated to include small saw timber, firewood, and bulk chips. Wood chips containing too much debris (bark and needles) were to be returned to the stand and scattered. Prescriptions were fairly complex, the majority of the trees marked for removal were low value western hemlock, and the gap and corridor sizes made logging the site very challenging. Forty six acres of treatment went out for RFP but the project was never awarded due to a per acre cost of approximately $13,000/acre.

**Ocean Boulevard thinning**
An ARRA funded project that consisted of thinning for wildlife habitat improvement on the Sitka RD while removing the slash to provide a source of biomass (cordwood). This was contracted as a service contract and the per acre costs ranged from $2200/acre to $22,000/acre (helicopter). 600 cords of wood were produced and transported to the LTF. The wood was advertised 3X with no bids.

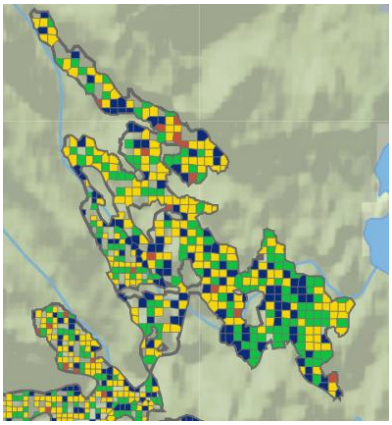
**Dargon Point young growth timber sale**
An EA was done in 2012/13 to harvest YG on the west side of POW Island. The stand was 60-70 years old, partially in the beach buffer with the majority in timber LUD. Two alternatives were analyzed—both entailed commercially thinning in the beach buffer. One alternative had rotational harvest in the timber LUD area, the other alternative proposed commercially thinning all of the 70 acres. Economic analysis in the document showed that commercially thinning the entire 70 acres was deficit but rotating the stand yielded a very positive

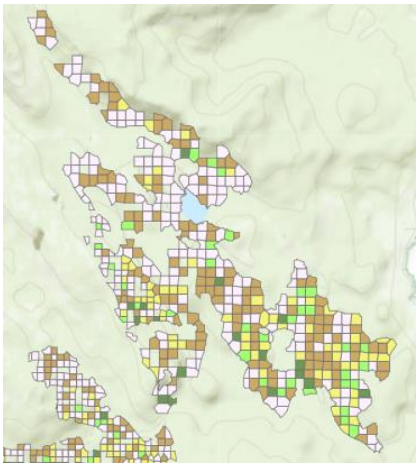
timber sale. The stand was nepa cleared and divided into 2 sales. Neither have been harvested yet and the land is no longer in FS ownership.

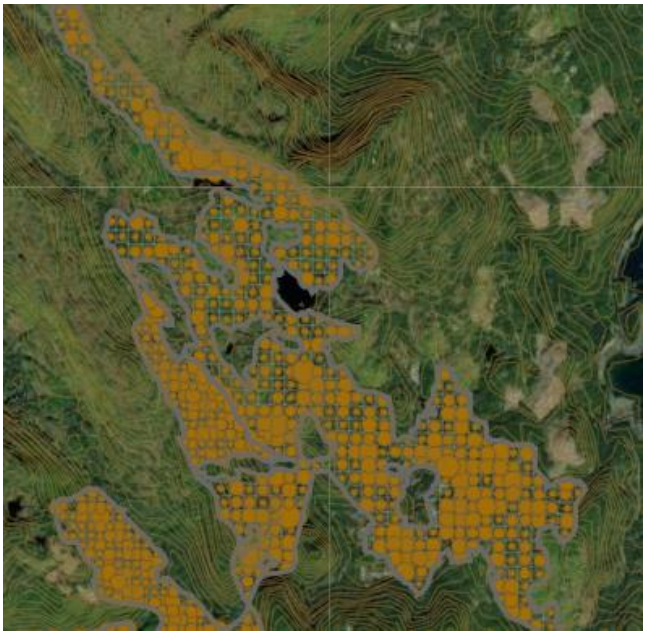
**Young growth inventory**
The Forest expanded its current young growth inventory of approximately 30,000 acres in 2011. Plans were to increase the statistical validity of the forest's inventory to populate the spatially explicit vegetation model, FPS, in order to plan a young growth schedule. This work progressed the knowledge of our young growth and potential growth and yield trajectories on a more temporal and spatial scale but issues with Covertype GIS layer and other GIS deficiencies led to a lot of trouble shooting effort rather than forward progress.

**CCSA inventory work**—
Work done in conjunction with the State of Alaska yielded several outputs and joint efforts that have led to a clearer picture of the complexities and opportunities in a spatial and temporal manner of the path to transitioning to young growth. Some of the work shows:

- Stand variability is very high across the Tongass in our young-stands—although stands are even-aged, most stand attributes are highly variable across the original harvest unit. This makes outyear planning and operability challenging.


Trees per acre


Volume per acre



Tree diameter sizes.

- Fall down—on average 30-40% of acreage of young growth will not be harvested due to forest plan restrictions, suitability and feasibility constraints. Overall this would, in many stands, lead to a patchwork of leave areas across the managed landscape.
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Example of 94 older-aged stands on POW