

MATSU-CIAA-UCIDA PROJECT LIST

- (1) Eklutna Salmon Hatchery – Potential Production 6 Million Fry Annually
- Some of the issues that need to be resolved in the Upper Cook Inlet will require rearing facilities for native fish species and enhanced salmon to 'jumpstart' the rehabilitation projects.
 - Hatchery is currently designed for 'mass production' of fish and therefore would require upgrade to allow small groups of fish to be raised in a modular setting for disease and stock isolation.
 - Will take approximately 2 years to upgrade the facility and must be completed before some lake rehabilitation projects are undertaken.
 - \$4,000,000 - \$5,000,000 over 2 years for design and construction.
 - Resigned facility will have capacity to do the following;
 - A. incubate 6 isolated stocks of salmon
 - B. production capacity of 6,000,000 fry (coho, chum and sockeyes) annually
 - Operational costs would be approximately \$800,000 per year. Length of time the hatchery would be operational for these rehabilitation projects would be dependent on the life cycle of the fish species raised.
 - Total cost = \$9,000,000.
- (2) Red Shirt Lake – 69,500 -- annual production potential
- CIAA and ADF&G surveys have documented the presence of northern pike and no adult salmon returns to the system.
 - Euphotic volume model estimates that Red Shirt has the capacity to provide for 69,500 adult sockeye salmon (7.2% of the total Susitna River drainage capacity).
 - Rehabilitation plan would include:
 - assessment of native species (genetics, abundance), removal of unique or critical species, temporary rearing and restocking;
 - determining, collecting, rearing and stocking of salmon from an approved source;
 - eradication and control methods for northern pike;
 - monitoring of smolt and adult salmon migrations and for northern pike.
 - \$1,200,000 over 10 years.
- (3) Trapper Lake – 16800 – annual production potential
- CIAA and ADF&G surveys have documented the presence of northern pike and no adult salmon returns to the system.

9/28/2012

- Euphotic volume model estimates that Trapper Lake has the capacity to provide for 16,800 adult sockeye salmon (1.7% of the total Susitna River drainage capacity).
- Rehabilitation plan would include:
 - assessment of native species (genetics, abundance), removal of unique or critical species, temporary rearing and restocking;
 - determining, collecting, rearing and stocking of salmon from an approved source;
 - eradication and control methods for northern pike;
 - monitoring of smolt and adult salmon migrations and for northern pike.
- \$1,200,000 over 10 years.

(4) Shell Lake – 90,265 annual production potential

- CIAA and ADF&G surveys have documented the presence of northern pike and very low adult salmon returns to the system.
- CIAA and ADF&G have also documented *Loma salmonae* (gill parasite) as being highly prevalent in the population and causing pre-spawning mortalities.
- Euphotic volume model estimates that Shell Lake has the capacity to provide for 90,265 adult sockeye salmon (9.3% of the total Susitna River drainage capacity).
- Rehabilitation plan would include:
 - assessment of native species (genetics, abundance), removal of unique or critical species, temporary rearing and restocking;
 - determining, collecting, rearing and stocking of salmon from an approved source;
 - eradication and control methods for northern pike;
 - monitoring of smolt and adult salmon migrations and for northern pike.
 - disease screening and assessment of smolts and adults and native fish species.
- \$1,600,000 over 10 years.

(5) Disease survey of watersheds in the Susitna River drainage.

- With the discovery of *Loma salmonae* in the Shell Lake system, questions have been raised as to whether this parasite or other pathogens have impacted the productivity of certain lake systems.
- This project would require an assessment of disease prevalence and incidence in a variety of key salmon production lakes to document baseline data and assess changes within the populations over time.
- The degree in which disease problem may impact salmon production can be estimated and the projected returns evaluated.
- \$1,500,000 over 5 years.

(6) Production capacity modeling and assessment of models.

- Models used to estimate production capacities are dependent on a number of key parameters such as euphotic volume.
- With climate changes, urbanization etc. these key parameters should be re-assessed to ensure the production capacities and hence escapement goals are a reflection of current habitat/ecosystem structure.
- This project would require an assessment of the habitat parameters via limnology, modeling and evaluation of the models to actual recognized production capacity levels.
- \$3,000,000 over 10 years.

| | Project Name | Project Time In Years | Project Total Cost In millions |
|---|---------------------------|------------------------------|---------------------------------------|
| 1 | Production Capacity Model | 10 | 3 |
| 2 | Disease Survey | 5 | 1.5 |
| 3 | Eklutna Hatchery (a) | 2 | 4.5 |
| 4 | Eklutna Hatchery (b) | 10 | 8 |
| 5 | Red Shirt Lake | 10 | 1.2 |
| 6 | Trapper Lake | 10 | 1.2 |
| 7 | Shell Lake | 10 | 1.6 |
| | Total | | 21 |