

Phase 3 Planning

Using the Quickstart Program as the baseline, it is time to begin planning for the long-term 2-5-year goal to buildout Gigabit Fiber-To-The-Premise on Beaver Island.

Maine has been successful in delivering fiber optic network to their costal islands. I reached out to the Maine Island institute who introduced me to Maine Island broadband leaders

Maine Broadband Leaders

Stephenie MacLagan,, Senior Community Development Officer, Island Institute, sent an email blast to the broadband leaders on Maine islands that BI is investigating community broadband options, primarily financial options how to fund the engineering and final planning and would like to know how they did it.

I got responses from

- Roger Heinen, Selectman, Islesboro Broadband Committee
- Walt Smith, Cliff Island retired engineer seasonal resident
- Tom Ploch, Swan's Island Broadband Committee
- Brian Lippold, President, Casco Bay Advisors, LLC

Islesboro Island

Islesboro island in Penobscot Bay directly across from Lincolnville. With many harbors and coves, the island was home of the largest commercial shipping fleet in the bay during the 19th century, Following the Civil War, Islesboro developed as a Gilded Age Resort community, and many large summer homes were built by the wealthy. Their large yachts cruised and raced through the Gulf of Manie. The island hosts a year-round population of lobstermen, caretakers and other professionals.

Quick Facts

- Year-round population, 2010 U.S. Census: 566
- Summer population estimate: 1,000
- Acres: 9,024
- Estimated distance between mainland and island ferry docks: 3 miles
- School: K-12
- Form of town government: Independent town
- Valuation \$300M

Islesboro Municipal Broadband (IMB)

In May 2015 Islesboro voters approved \$206,830 to fund up-front design work to get a firm construction bid to bid and operate a 1-gbps fiber Internet to all residents on the island.

June 2016 Islesboro residents voted 145 to 23 to authorize a \$3.8 million bond to fund construction of a dark fiber-to-the-premise (FTTP) Infrastructure capable of delivering 1-gigabit Internet access to 600 premises on the island.

The town voters approved an annual budget to maintain, manage and ensure the infrastructure so that remains in good working order. The total FY 19 tax burden - the bond payment and budget to maintain the network is 1.4 mil or \$1.40 per \$1000 in valuation.

Subscribers pay \$30 a month plus a service fee for a 1-gigabit fiber-to-the-premise service.

Hundreds and hundreds of hours of education, meetings and public hearings have gone into the project.

Despite the high cost, the project was funded in part through subscriber fees to the network and in part through a property tax increase. For the 2016-2017 fiscal year, the tax increase for the broadband network was just 6 cents per \$1,000 worth of property valuation.

Swan's Island

The island has a summertime population of approximately 1,000. There is a general store on the island, which opened in spring 2007, and at least one inn. There are also several small cottage-industry shops. The main industry is lobster fishing, which employs 40 people full-time and many others in part-time work.

Quick Facts

- Year-round population, 2010 U.S. Census: 332
- Summer population estimate: 1,000
- Acres: 8,014
- Estimated distance between mainland and island ferry docks: 6 miles
- School: Swan's Island Elementary (K-8; students commute off-island for high school)
- Form of town government: Independent town

Swan Broadband Project

Tom Ploch, Chairman Swan Island Broadband Committee, introduced me to Brian Lippold President, Casco Bay Advisors, LLC. Brian specializes in developing strategic plans to establish new fiber, optic networks, network planning, engineering, operations, business development and process management.

In addition to working on the Swan's Island project, Brian was involved in design and engineering in the Islesboro Municipal Network.

Brian was contracted by Swan's island for the upfront design/engineering and surveying the path from utility poles to home and business for network infrastructure. His prime focus is writing Swan's Island application for the USDA ReConnect Program. His fee is \$50,000 for 500-man hours to submit the application.

Swan's island is receiving planning grants and contribution to the 25% municipal ReConnect matching funds

- \$42.4k – ConnectME
- \$15k Maine - Community Grant
- \$10k -The Island Institute
- 28 residents contributed \$25k

TDS is the incumbent telco on Swan's. TDS service sucks on Swan's island. Same MO.

Brian Lippold has been in the telco business for over thirty-five years. He knows all the players. He put the arm on TDS to provide the same FTTH to Swan's island as on the mainland or he would go to the Fed and state regulators that TDS has not delivered service level promised in their grants

Cliff Island

Cliff Island is an island in Casco Bay Maine. It is part of the city of Portland, Maine. As of the 2000 census, the island had a year-round population of approximately 60 people.

Quick Facts

- Year-round population, 2010 U.S. Census: 71
- Summer population estimate: 200
- Acres: 302
- Estimated distance between mainland and island ferry docks: 6 miles
- School: K–5; one-room schoolhouse; grades 6–12 commute daily to Portland
- Form of town government: Part of the City of Portland

CI Fiber

Being part of Portland meant Cliff Island was unlikely to land grants, yet city spending for the project was unlikely.

Seasonal resident, Walt Smith, the island got creative in leveraging the resources it does have. Smith led a group of volunteers, both on-island and summer people, have formed CI Fiber, LLC, to raise the \$350,000 required to install the communications equipment and fiber optic cable.

CI Fiber, the corporate entity which now owns the broadband infrastructure. CI Fiber then sold shares to those who could afford to lend support. The project became one which depended on philanthropic giving, as the shares were likely to be slow in earning back the initial investment.

Community buy-in was certainly large. There were 80 subscribers who signed up for broadband service (the target was 60).

The plan is to install a microwave link between Portland and the island and connect fiber-optic cable to the 40 year-round and 250 summer residents and every business on the island in early 2020.

Cliff Island residents built the network substantially reducing network costs.

Also, Walt Smith convinced three high wealth individuals in Lyme, NH (population 1671) to contribute \$2m no strings attached to invest in LymeFiber.

LymeFiber LLC is a community-centered project offering fiber-optic Internet data service to all residences, businesses, and public organizations in Lyme. Levels of service range from 25 Mbps up to 700 Mbps. All service is symmetrical - same speed upload and download - and are free of data caps.

Monthly rates begin at \$74. Residential and business phone lines will be available as an option for \$20 per month.

Service is projected to begin in Summer 2020.

With the direction of the island Institute Maine Islands have successfully pursued three funding models

- USDA ReConnect Program
- Private Funding Model
- USDA Community Grant Program (with additional funding sources)

- ConnectME
- Hired grant writer through Island Institute Broadband Planning Grant

2020 Elections

With the pending 2020 election there are a glut of federal rural broadband grants/loans. The federal government appropriated billions of dollars for rural broadband subsidies.

Applying for federal rural broadband subsidies is extremely complex and requires a high level of technical and network engineering expertise.

For the last 10 years, the FCC has spent \$45 billion for a combination of four megabit per second service. That why in 2020 Beaver island has TDS DSL service after receiving USDA grants of \$2 M in 2009 and \$3.3 M in 2017.

Below is a list of the current federal broadband grants with comments by Brian Lippold, President, Casco Bay Advisors, LLC. Brian specializes in developing strategic fiber optic network planning, engineering, operations, business development and process management.

He wrote Swan's Island USDA ReConnect application and was involved in design and engineering in the Islesboro Municipal Network.

The Keeping Critical Connections Act

- FCC appropriate \$2 billion fund at the FCC for small broadband providers with fewer than 250,000 customers could be compensated for broadband service
- Telework, study from home, and access critical medical services via telemedicine

Brian Lippold

The Keeping Critical Connections Act – If approved this is a handout for the existing small providers who have either reduced their current fees or offered free service to subscribers during the virus crisis. This would not benefit Beaver Island and I do not think any of those small providers are legitimately eligible. I doubt it will pass. Just another example of people/companies taking government handouts that are not justified.

CARES Act Telecom Funding

- \$100 million for the USDA ReConnect program
- \$200 million for a one-time telehealth program to be administered by the **FCC**

Brian Lippold

CARES Act Telecom Funding – This is primarily being used to provide those without Internet access during the virus crisis with wireless hotspots or devices to allow students to connect for school or those who must work from home and cannot afford a connection. Again, not something Beaver Island can use to build a new network.

USDA Rural Broadband Pilot

- USDA \$600 Million Rural Broadband Pilot Loan/ Grant Combinations
- 90% of the households covered by the project must be in a rural area that does not have access to internet with 10 Mbps download and 1 Mbps upload
- Current grantees that are eligible as a result of changes in eligibility requirements will be given priority. It is likely that most of this funding will go to rural telephone companies

Brian Lippold

USDA Rural Broadband Pilot – This was the predecessor, or pilot project that created the USDA ReConnect Program.

Beaver Island is not eligible for ReConnect Program it does not meet the 90% of households do not have access to 10/1 Mbps requirements

Rural Development Opportunity Fund

- \$20.4 billion available, over a ten-year period
- Two reverse auctions
 - first auction will target census blocks where no provider offers service at 25/3 Mbps speeds info from service providers are required to report to the FCC on Form 477
 - The second auction will target census blocks that are partially served
- FCC will use a weighting system to favor bids to deploy service at higher speeds up to 1 Gbps downstream and with lower latency, meaning fiber broadband should be well represented
- First Phase I will target areas that are defined as wholly unserved with 25/3 Mbps service, offering \$16 billion in funding
- Under FCC Auction 904, 3/17/20, Beaver Island is not eligible for Phase 1 RDOF does not meet 10/1 Mbps requirements

Brian Lippold

1. *Beaver Island is not eligible under the planned rules for the RDOF program. This is because the incumbent provider has told the FCC, through the existing Form 477 process, that they provide at least 10/1 to the census blocks on the island. You know this is not correct, but the FCC does not let facts get in their way.*
2. *The proposed RDOF rules do not allow anyone to appeal this classification.*
3. *If Beaver Island was eligible, the maximum reserve bidding amount is \$200 per potential subscriber per year for 10-years. This amount is likely just a ¼ to 1/3rd of the amount required to build a FTTH network on the island.*
4. *If Beaver Island were eligible and the electric coop was interested in bidding, it is highly likely that TDS would also bid, driving down the subsidy amount to something below \$200.*

Brian Lippold's recommendations for Beaver Island.

I agree that the electric cooperative is your best avenue for success and likely the lowest cost solution if TDS is not willing to play. While GLE may have declined in the past, I would not give up on them. You just have not sold them on it yet, but you can.

I also agree your next step should be to engineer a FTTP network so that you know with some level of certainty what the total cost would be which will allow you to more confidently raise the associated capital.

Engineering Study – Every consultant has a different definition of what is included in an engineering study. Depending on the definition, the cost can vary from \$20,000 to over a \$100,000. In Maine, the ConnectMaine Authority and the Maine Community Foundation both help to fund these types of studies. Many communities who do not qualify for those grants fund the studies out of their general fund and/or donations.

Doug Dawson, President, CCG Consulting, gave me assurances that design and engineering cost would not exceed \$40k. Chris Mitchel, The Institute for Local Self-Reliance, non-profit partner on the Quickstart Study introduced me to Doug Dawson.

Maine Island takeaways

- Maine has three benefactors we do not have. The Island institute, ConnectMaine Broadband Authority, and the state's congressional delegation that provide more than just lip service
- Island Institute and ConnectMaine, fund \$50k for design & engineering studies and federal grant to Maine islands
- The political reality is there are 4600 islands off the coast of Maine, so island political visibility is enormous
- Islesboro voters authorize a \$3.8 million bond to build a municipal dark-fiber network
 - Subscribers pay \$30/mo. for a Gigabit fiber-to-the-premise service
- A Cliff Island seasonal resident got high wealth individual to contribute \$350,000 to form CI Fiber, LLC, build dark-fiber network on the island
- Swan Island contracted a resident engineer for a design engineering study and applying for the USDA Reconnect application
 - TDS is Swan island incumbent service provider & the engineer offered to work with us on our broadband project

2020 Election

In the time of COVID-19 pandemic, with no doctor on the island and insufficient bandwidth for telemedicine and distance learning, Beaver Island at risk. With only medivac, we need lifeline now to protect the health of the islanders.

With the impending election, it is time to put the full court press on our state and national representatives to impress upon them that broadband funding is essential to survive the COVID-19 pandemic and the financial viability of Beaver Island.

Create an email blast campaign that Michigan replicate Maine's ConnectMaine Authority and the Maine Community Foundation for \$40k for the design and engineering study and explore long-term funding stream for gigabit fiber-to-the-premise buildout.

Target

- US Senator, Debbie Stabenow
- US Senator Gary Peters
- US Congressman Jack Bergman
- State Senator Wayne Schmidt
- State Rep Tristan Cole
- Jason Allen, State Director, USDA Rural Development Michigan

Recommendations

- Pursue Great Lakes Energy partnership
- Explore Friends of Beaver island angle investors as benefactors
- Explore USDA Community Grant Program
- Explore non-profit grant opportunities
 - Charlevoix County Community Foundation
 - Stuart Mott Foundation
 - Pew Charitable Trust
- Townships hire a grant writer

- Great Lakes Islands Alliance focus on island broadband projects
- Created a Broadband Task Force
 - Funding & Policy
 - Education & Resources
 - Surveys
 - Data Mapping
 - Identify skill sets
 - Benefactor Rolodex
 - Communication
 - Marketing/advertising
 - Financial
 - Legal
 - Project management
 - Network technology