Historic Land Use and Effects to Maine Streams

Fisheries Improvement Network

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Presentation Road Map

- What were the historical conditions?
- Legacy Land Use
- Clues to Prior Land Use Activities
- Putting things back together again

What might things have looked like?

Wohl, E. 2014. A legacy of absence: Wood removal in US rivers. Progress in Physical Geography 38: 637-663.

- Not restricted to small systems
- Formed extensive rafts
- Served important functions
- Stood in the way of progress

Past Land Use Practices Reducing Instream Habitat

- Cutting riparian zones
- Driving of logs
  - Removed anything in the stream that would hang up logs
  - Volume of water all at once from splash dams
  - Bulldozing streams
  - Logs scouring stream banks and stream bottom

How DYNAMITE *streamlines streams*

Straightening of Pequest River in New Jersey by CCC workers stopped its yearly floods. Location of new channel is seen at right. Note temporary dam at left to provide volume of water for scouring blasted channel.

Explosion of dynamite charge by propagation excavates new channel.

Immediately after explosion, water is entering new channel, whose banks will be smoothed and "stream-lined" by the speedier flow of water.

CROOKED STREAMS are a menace to life and crops in the areas bordering on their banks. The twisting and turning of the channel retards the flow and reduces the capacity of the stream to handle large volumes of water. Floods result. Crops are ruined. Lives are lost. Banks are undermined, causing cave-ins that steal valuable acreage.

In many instances straightening out a stream has doubled its capacity for disposing of run-off water.

DYNAMITE may be used most efficiently and economically in taking the kinks out of a crooked stream. The dynamite is loaded along the length of "cut-off" channel. When fired, the dirt and other debris is heaved high in the air and is scattered over the adjoining territory—leaving practically no spoil-banks. In addition to the material actually thrown out, much dirt is loosened and is later scoured out by the water which rushes swiftly through the straightened channel.

Du Pont Dynamite has straightened many thousands of miles of crooked streams. Du Pont engineers have worked for years to develop the best blasting methods for the cleaning out and straightening of streams. All their data is in a 48-page book, "Ditching with Dynamite." It is for your use. Write for it.

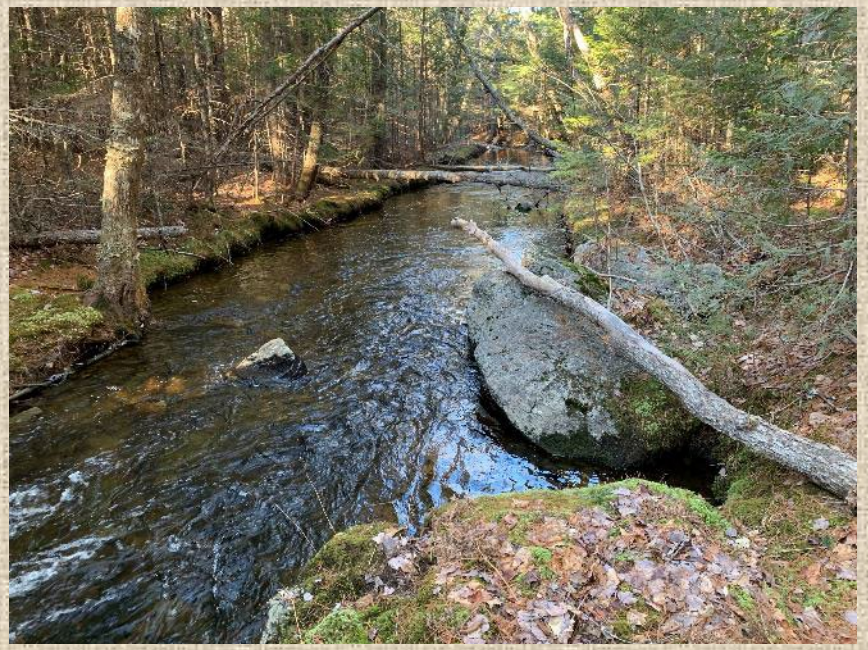
Dynamite can help you do other jobs, too. It can help you build highways, dams; fight soil erosion; work quarries. Du Pont has an explosive for every purpose.

DU PONT

E. I. du Pont de Nemours & Co. Inc.
Explosives Department
6107 du Pont Building
Wilmington, Del.

Typical Maine Stream

Legacy Clues



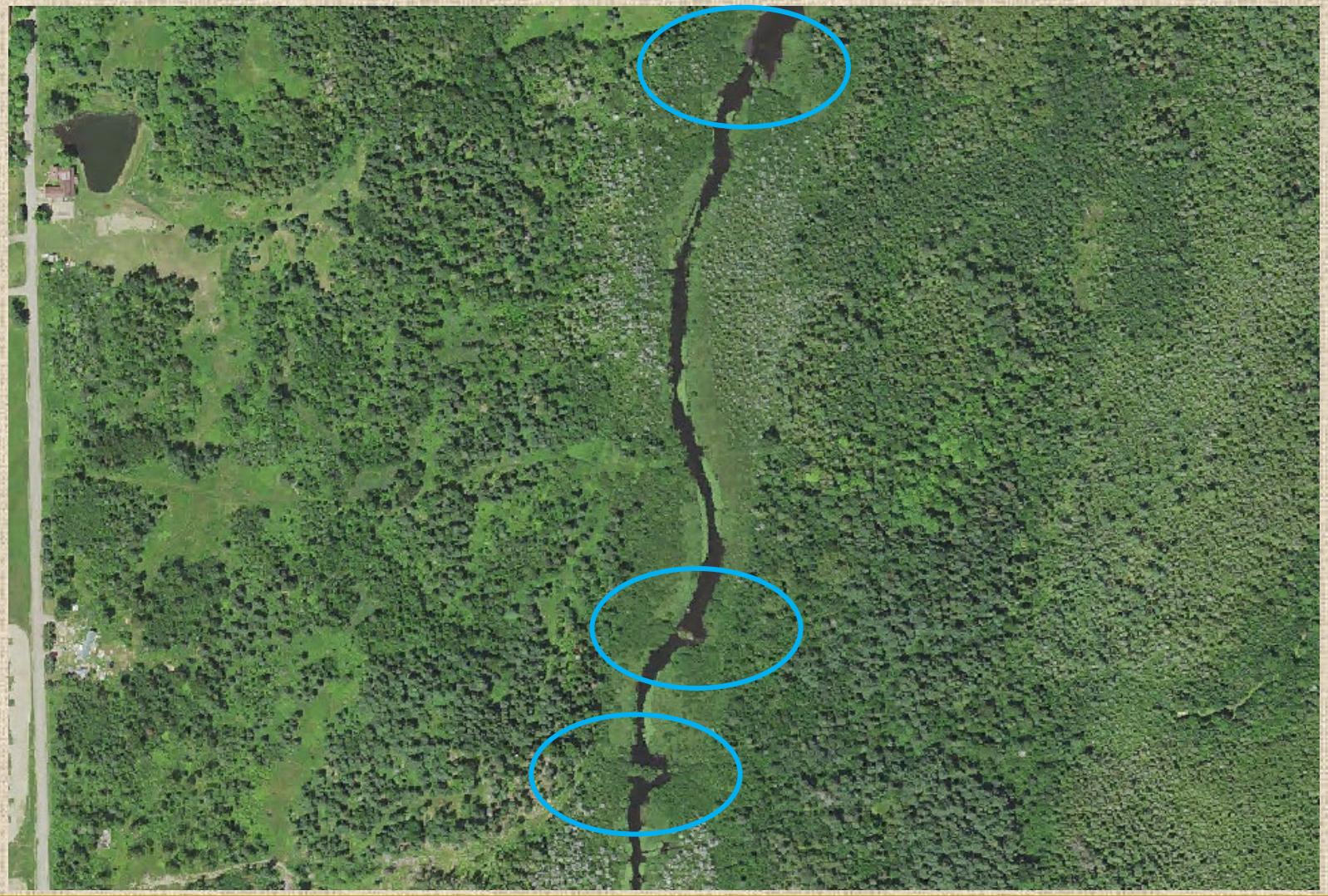
More Legacy Clues

Yet More Legacy Clues

Bumper Logs?

Aerial Signature Clues

Aerial Signature Clues



So what can we do about it?

Restoration of Habitat Complexity

- Habitat for macroinvertebrates
- Off-channel habitat
- Sediment sorting and gravel bars
- Pools

In-Stream Habitat Working Group

- Provide multi-disciplinary expertise to facilitate voluntary process-based river restoration.
- Provide outreach, training, and develop technical guidance to restoration practitioners, landowners, tribal nations, the forest products industry, government entities, natural resource managers, and other interested parties.

In-Stream Habitat Working Group

Who we are:

Chris Reidy – USDA Natural Resources Conservation Service

Bill Bennett – US Fish and Wildlife Service

Chris Federico – Project SHARE

Tom Gilbert – Maine Forest Service

Sarah Haggerty – Maine Audubon

Mark Jordan – Jordan Environmental Engineering

Justin Stevens – Maine Sea Grant

Questions?