

WHY REMOVE OBSOLETE DAMS?



- People – Flood Resiliency & Public Safety
- Environment – Aquatic & Terrestrial Wildlife
- Economy – Reduce Adverse Impacts & Costs

What's Good for Fish is Good for Us and Good for our Budget!

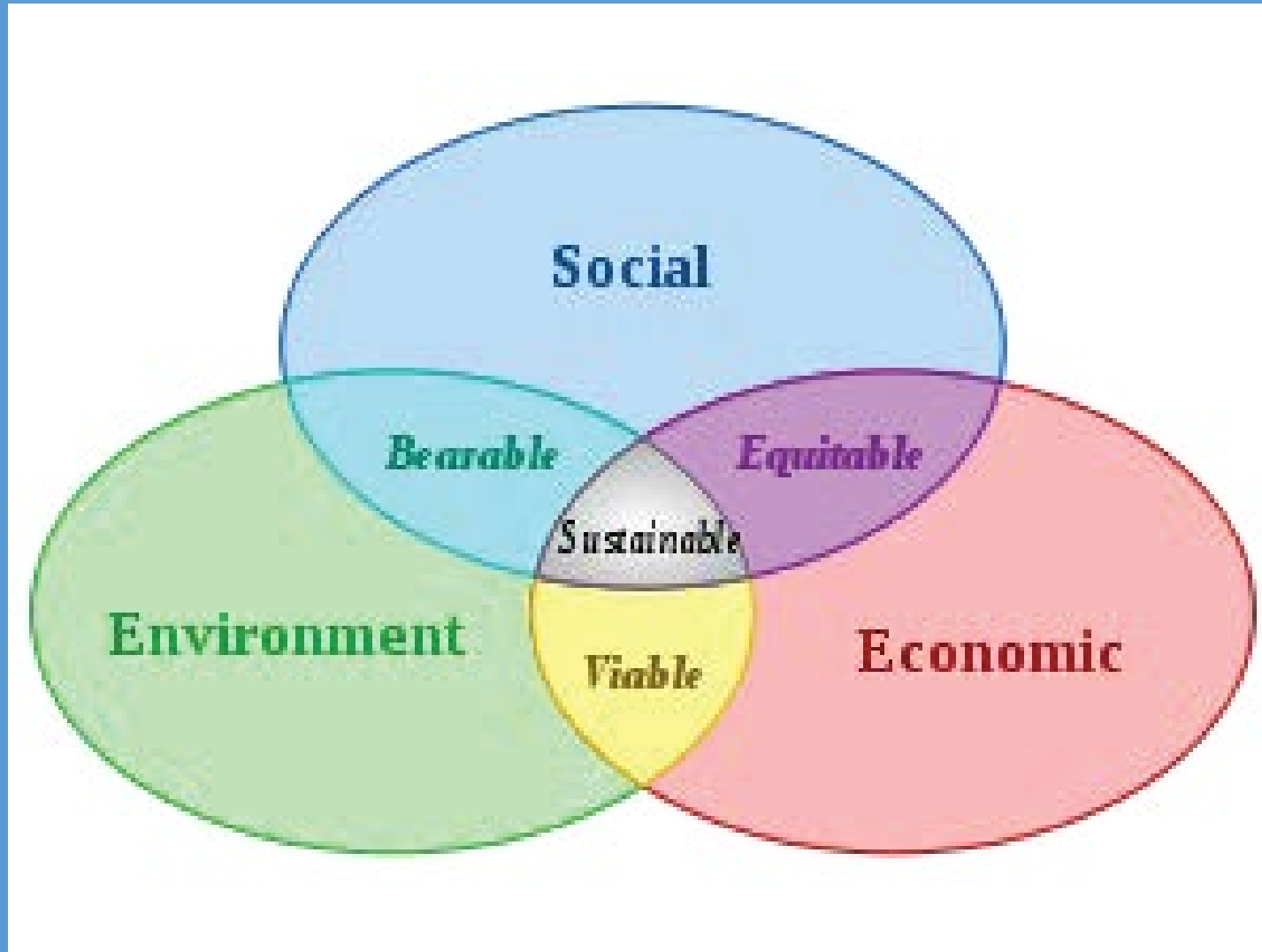


Todd Menees, River Restoration Engineer
DEC WSMD Rivers Program Science Team



Connolly Pond Example: Start with the End in Mind

Hits
The
Bulls
Eye!



Win-
Win-
Win!

Respect!

Protect!

Enjoy!

Connolly Pond Wetland 10 Months Later

320' L
15' H
10' W
7 – 10
ac/ft
volume



Fire
Pond

Crop
Water
Source

1950
Earth
Dam
Poor

Hazard

Condition

8/27/21 DRONE PHOTO COURTESY OF MARC CIMONETTI

Significant

Connolly Pond: Muskrat Keep the End in Mind

Win-

Win-

Win!

Respect!

Protect!

Enjoy!



Big Fish
in the
Pond

AND

The
Muskrat
Lived!

Peggy's Pond Dam Planting Plan After Removal

Water Drawn Down 2020

After Dam Removal



RESTORED WETLAND VEGETATION



OBSERVATION LOCATION WITH INTERPRETIVE SIGNAGE



RESTORED PILOT STREAM CHANNEL

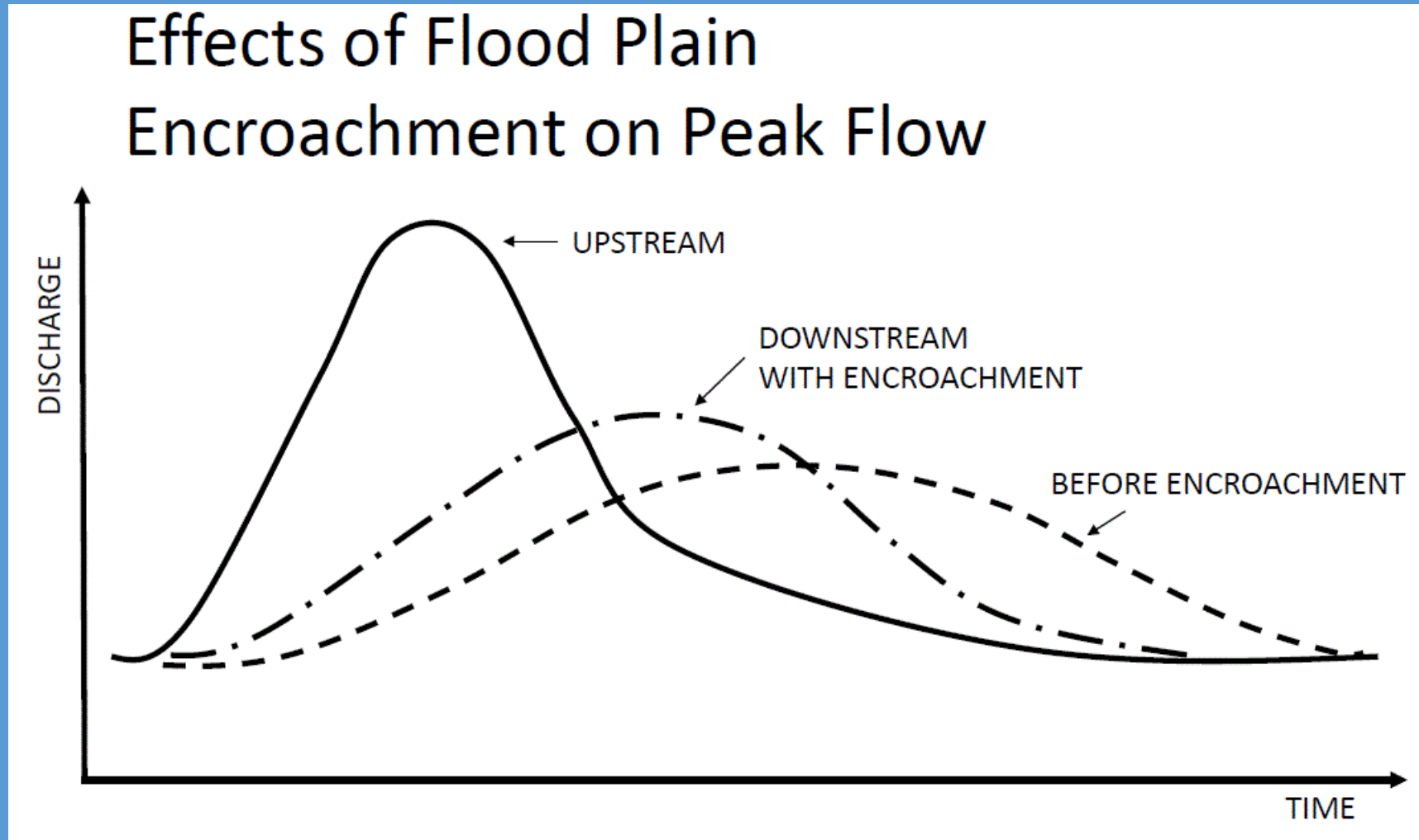


Seed and Mulch Only

30% Design Stage

Science: OnStream Dams Encroach on Floodplain

OnStream
Dams
Make
Flooding
Worse



Dams
Gone
Reduce
Flooding

Respect! Protect! Enjoy!

Kendrick Dam 2013

Old
1870
Mill,
Town
Owned

Before
Removal
2014!



10 sq mi
Upstream
Of Rock
Dam,
Good
Brook
Trout
Stream

Kendrick Dam Gone 2015

Stream
and
Floodplain
Restored

After
Removal
2014!



Aquatic
and
Terrestrial
Habit
Restored
Upstream
Of Rock
Dam

Norwich Pool Dam 2015

Old
Town
Rec
Pool



After T.S.
Irene
Breached!

Concrete
Dam
Built by
Town
WWII
Veterans

Norwich Pool Dam Gone 2017

Still a
Town
Rec
Park

Removed
2016 Full
Breach!



Dam
Gone

Rock
Steps
For
Public
Access

Norwich Reservoir Dam 2017

Old
Town
Water
Supply

Before
Removal
2018!



12.5'
High
By
40' long
Concrete
Dam

Norwich Reservoir Dam 2018

Old
Town
Water
Supply

During
Removal
2018!



12.5'
High
By
40' long
Concrete
Dam

Norwich Reservoir Dam Gone 2020

Old
Town
Water
Supply

After
Removal
2020!



Naturally
Vegetated
And
Planted
By
Volunteers

Dunklee Pond Dam Before Removal

Crumbling
Stone Dam
Known
Public
Safety
Threat



Looking Upstream at Old Stone Dam 2017

Ca 1792
Dam
Poor
Condition

Mill
Pond

Ice
Harvest
Source

Significant
Hazard Dam

Dunklee Pond Dam Before Removal

T.S. Irene
Sediment
Deposits
Filled in
the Pond

~ 400 lbs

Of
Phosphorous
Removed



Poor WQ

Murky
Water

Smelly and
Fish Kill
Low D.O.

Looking Upstream at Old Stone Dam 2017

Dunklee Pond Dam Partial Breach

Next Day
Halloween
Flood for
Public
Safety
Threat

Dam
~160 l.f.
above
Route 7



Looking Upstream at 2019 Partial Breach

Irene
Spilled
Water
on the
Sidewalk

Rutland
Disaster
Averted

Dunklee Pond Dam After Full Removal

Four Deer
in Tenney
Brook
After
Dam
Removal

Removal
Completed
10/28/21



Looking Upstream at Old Stone Dam 2017 by Doshi

~400 lbs. of
Phosphorous
Removed

Floodplain
Storage

Captures

Future

Sediment

Phosphorous

Dunklee Pond Pocket Park 9/16/21

It takes a
Village
to
Remove
a Dam!



Win -
Win -
Win -

Everyone Walks Away Smiling!

Dunklee Pond 2022 Funded Planting List

Common Name	Species	Size	Type	Amount	Anticipated Source
Black Willow	Salix nigra	2-3'	Bare Root	100	CVNPRN/Cold Stream
Northern White Cedar	Thuja occidentalis	1-2'	Bare Root	50	Meadowview Nursery
Pussy Willow	Salix discolor	3-4'	Bare Root	50	CVNPRN
Quaking Aspen	Populus tremuloides	3-4'	Bare root	75	Alpha
Red Maple	Acer rubra	2-3'	Bare Root	100	Alpha
Red Osier Dogwood	Cornus sericea	2-3'	Bare Root	50	CVNPRN
Speckled Alder	Alnus incana	3-4', 4-5'	Bareroot	50	Essex NRC
Swamp White Oak	Quercus bicolor	3-4'	Bare Root	25	CVNPRN
Silky Dogwood	Cornus amomum	3-4', 4-5'	Bare Root	50	CVNPRN
Winterberry	Ilex verticillata	18-24"	Bare Root	50	CVNPRN/Cold Stream
Silky Dogwood	Cornus amomum	10-18"	Live Stake	100	CVNPRN/Intervale
Shrub Willow	Salix spp.	10-18"	Live Stake	100	CVNPRN/Intervale
Black Willow	Salix nigra	10-18"	Live Stake	100	CVNPRN/ Intervale
Shrub Willow	Salix spp.	8-12'	Fascine	25	CVNPRN/Intervale
			Total	925	

VT
NRC
D
Funded
Total
925
Plants
14
Species

Trees for
Streams
Program
Since
1990

Northern White Cedar Swamp - "Fish Grow on Trees!"

Dunklee Buffer Planting 5/20/22

It takes a
Village
to Plant
a
Riparian
Buffer!



Green
It
Up!

On
5/26/22
Done!

Another Planting Day and Everyone Walks Away Smiling!

Dunklee Buffer Growth 7/5/22

Looking
Down
Stream
at New
Riparian
Buffer!



After
Done on
5/26/22
Greened
It
Up!

Now We Monitor Survival Rates and Maybe Plant More?

Dunklee Buffer Growth 9/8/22

Looking
Down
Stream
at
Meander
Bars and
New
Stream
Channel!



After
Summer
Growth
2022

Green
and
Stable!

Now We Monitor Channel Development!

Dunklee Buffer Growth 10/25/22

Looking
Up
Stream
at
Meander
Bars and
New
Stream
Channel!



Summer
to Fall
Growth
2022

Green
and
Stable!

Now We Monitor Vegetation Growth!

Williams Dam Londonderry 2014



Looking
East

At Route
11 State
Bridge

Poor
Condition
Dam

Irene
Damage
and Over
Topped
Route 11

Increases Flooding in Town!

Williams Dam Londonderry 2014

Looking
East
At Edge
Hill Road
and Dam
Face

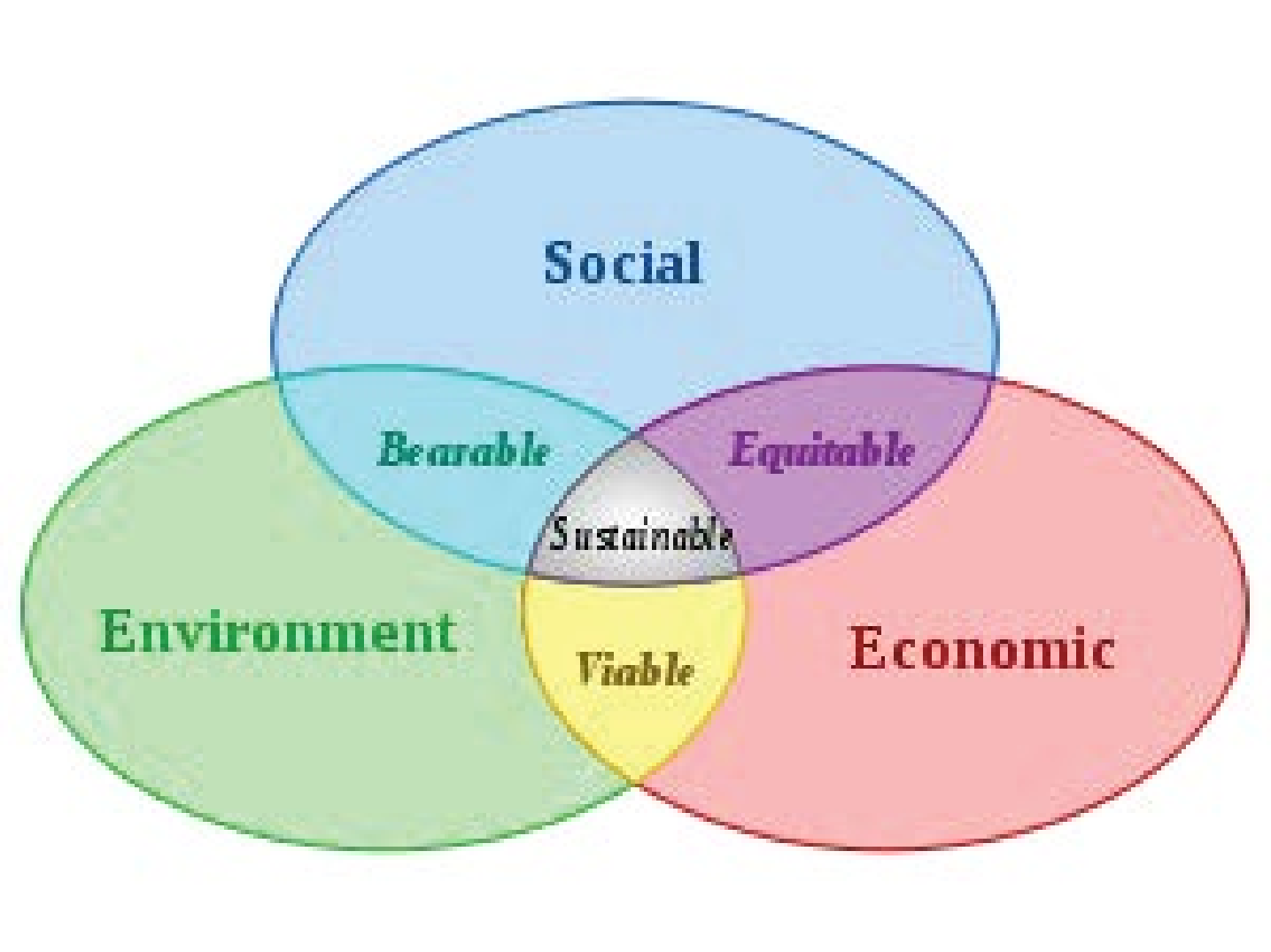


Rock
Rip-rap on
both sides
of Dam
and Town
Road

Increases Flood Damage!

YOUR TOWN Example: Start with the End in Mind

Hits
The
Bulls
Eye!



Win-
Win-
Win!

Respect! Protect! Enjoy!

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- People – Flood Resiliency & Public Safety
- Environment – Aquatic & Terrestrial Wildlife
- Economy – Reduce Adverse Impacts & Costs

QUESTIONS?

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