

**2020 Juvenile Atlantic Salmon Stocking
COVID-19 Pandemic Contingency Plan**

Stocking Emergency Ad Hoc Committee

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Dan Kircheis, National Marine Fisheries Service
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April 2020

Committee Charge

The Stocking Emergency Ad Hoc Committee (Committee) was formed in April 2020 by the Atlantic salmon Implementation Team (IP) to undertake cross agency contingency planning for the release of endangered juvenile Atlantic salmon during the COVID-19 pandemic. The Terms of Reference were finalized on April 3, 2020 and are attached as Appendix A.

The primary goal of the Committee is to ensure the health and safety of staff while ensuring juvenile Atlantic salmon released in Maine are released in a manner that promotes survival, facilitates the recapture of family groups during age 1+ parr collections, and mitigates potential deleterious effects to the captive broodstock lines held at Craig Brook National Fish Hatchery (CBNFH).

The Committee was charged to implement a range of [stocking] contingency measures to include:

- Identify the stocking strategy of smolts from Green Lake NFH, including differences in timing and methods necessary to ensure the safety of staff. Identify any other contingency measures needed if the scenario should get worse.
 - Identify the potential program impacts of the stocking strategy and any other scenario
 - Identify potential means, if any, to mitigate these impacts
- Identify possible scenarios, including best and worst case, for stocking of fry from Craig Brook NFH, including any differences in timing and methods necessary to ensure the safety of staff.
 - Identify the potential program impacts under each scenario
 - Identify potential means, if any, to mitigate these impacts

The charges set out in the Terms of Reference focused specifically on juvenile releases from Green Lake National Fish Hatchery (GLNFH) and CBNFH. The Chair extended these charges to include juvenile

releases into Kennebec River by Nashua National Fish Hatchery (NNFH) and Downeast Salmon Federation (DSF) operations releasing juveniles into the East Machias and Pleasant rivers.

Smolt Releases from GLNFH and NNFH

Prior to the formation of the Committee GLNFH and NNFH initiated the release of smolts into the Penobscot and Kennebec rivers, respectively. This action was deemed necessary due to the rapidly unfolding pandemic situation and uncertainty related to future personnel restrictions or illness that may have impacted hatchery operations.

NNFH completed the release of approximately 88,753 smolts into the mainstem Kennebec River, below the Lockwood dam on April 6th. This represents the first release of Penobscot origin smolts, transferred from GLNFH in the fall of 2019 to NNFH. The release below Lockwood deviates from original stocking plans which included several release sites in the Sandy River, a tributary to the Kennebec. The mainstem Kennebec River was only to be considered in the event either a passage study was required or as a last resort. Release timing also deviated from original stocking plans; smolts were to be released when temperatures were appropriate (7°C – 10°C) between late April and mid-May. Given that stocking occurred several weeks earlier than the normal migratory period for wild smolts, it is anticipated there could be some survival effects on this smolt cohort. Returns from the 2020 smolt cohort will be recaptured at Lockwood as grilse in 2021 and multi-sea winter adults in 2022; assessments of the cohort can be made at that time. No mitigation strategies were identified.

GLNFH will complete the release of approximately 650,000 smolts into the Penobscot River, below the Milford dam during the week of April 13th. The release of Penobscot smolts in 2020 occurred approximately three weeks early; the final releases will occur at the same time initial releases occur in a status quo year. . Given that stocking occurred several weeks earlier than the normal migratory period for wild smolts, it is anticipated that there could be some survival effects on this cohort of smolts. Returns from the 2020 smolt cohort will be recaptured at Milford as grilse in 2021 and multi-sea winter adults in 2022; assessments of the cohort can be made at that time. No mitigation strategies were identified.

Fry Releases from CBNFH and DSF

CBNFH

Under normal operations unfed fry from CBNFH are released between 85% and 100% developed. This permits CBNFH to combine as many families as possible for each scheduled release, ensuring the broadest distribution of genetic material in to high quality rearing habitat. Releasing fry below 85% is not recommended as the fry are too weak to transport long distances or survive well in river conditions. Releasing unfed fry above 100% development is not recommended as the fry will have passed the point of accepting feed at the hatchery and the risk of starvation is heightened. CBNFH is unable to facilitate the feeding of fry under current operations.

The Committee opted to release CBNFH fry at the earliest development feasible in 2020, limiting the range to 85% - 90%, and in larger groups to condense the number of trips necessary. CBNFH load out protocols are included as Appendix C. These actions will move fry releases to early May and ensure adequate mixing of fry occurs.

CBNFH will provide standard fry stocking equipment including:

- 1 F250 4X4, Yeti coolers (4), oxygen, aeration, canoe rack – 100K fry capacity
- 1 F250 4X4, blue tank (1), oxygen, aeration – 100K fry capacity
- 1 F250 4X4, blue tank (1), oxygen, aeration – 100K+ fry capacity (up to 112K without cubes)
- 2 single cooler set-ups for Sheepscot fry
- Miscellaneous equipment, buckets, dipnets, etc.

DSF

Under normal operations DMR would assist DSF with releasing fed and unfed into the East Machias and Pleasant rivers. For 2020 DSF will solely conduct fry stocking operations. DSF is self-sufficient in terms of equipment and personnel needs.

2020 Stocking Scenarios

The Committee developed a matrix [Table 1] that will guide fry stocking operations under three possible scenarios based on personnel availability. The DMR Atlantic Salmon Stocking Plan, which includes detailed regional stocking plans under each of the three scenarios and State of Maine personal protective measures, is attached as Appendix B.

Each scenario addresses shifting personnel availability, stocking protocols, identifies potential consequences and mitigation strategies. Stocking is a fluid activity that often requires changes of strategies and personnel based on environmental conditions, equipment failures and other issues. All personnel involved with stocking on an annual basis are familiar with the need for close communication and flexibility. While these scenarios address steps that will be taken under varying conditions, field and hatchery personnel will maintain the ability to make daily decisions based upon current conditions and guidance as related to COVID-19.

Table 1. 2020 Fry stocking contingencies in response to the Covid-19 pandemic.

	Scenario 1: Current Operations	Scenario 2: Reduced Operations	Scenario 3: No Operations
Description	Core USFWS/DMR/DSF personnel (no interns/volunteers) on split schedules to minimize contact. Staff from all agencies are available to conduct stocking activities.	A. USFWS/DMR/DSF available to conduct stocking activities B. DMR available to conduct stocking activities	A. USFWS/DSF Caretaker only, DMR available to conduct stocking activities B. USFWS/DSF available to conduct stocking activities, DMR unavailable
CBNFH Staff	Full staff (5), 2 dedicated to transport/stocking	A. minimum of 2 staff B. no staff available	A. No available staff B. Minimum of 2 staff
DMR Staff	1+/SHRU	1+/SHRU	A. 1+/SHRU B. no staff
DSF Staff	Full staff (3)	A. minimum of 2 staff B. no staff available	A. No available staff B. Minimum of 2 staff
Approach	<u>Status quo</u> : Mixed groups of fry will be released in high quality habitat to maximize survival and increase likelihood of recapture as parr broodstock. Fry releases to the East Machias and Pleasant rivers will be conducted solely by DSF personnel.	<u>Status quo</u> and in addition, fry densities may be increased to compress the number of individual release locations. <i>Daily assessment of current staff availability, safety and current COVID guidance will occur to maintain flexibility.</i>	<u>Scenario 3A</u> : In the absence of sufficient USFWS/DSF staff, unmixed groups of fry will be available for release to a reduced number of locations. DMR personnel will use USFWS vehicles to release fry. <u>Scenario 3B</u> : In the absence of sufficient DMR staff, mixed, or unmixed, groups of fry will be released in pre-selected vacant habitat near direct road access by USFWS/DSF personnel

Table 1 continued:

	Scenario 1: Current Operations	Scenario 2: Reduced Operations	Scenario 3: No Operations
Program Consequences	None anticipated	For the Penobscot population stocking activities will shift from fully seeding habitat via canoe to point stocking; habitat will not be fully seeded under this scenario	Quality habitat will not be fully seeded. The reduction of release locations, releasing fry in less optimal habitat and/or the inability to adequately mix family groups may result in poor recapture of families during parr collections in 2021. Poor family recapture may negatively impact the genetic diversity and viability of affected populations.
Mitigation	For the Dennys population, with a wide spread of development, multiple trips will be taken to locations to ensure adequate in-river mixing of families for future recovery.	Possible mitigation measures, including additional trips [on other rivers in addition to the Dennys], will be discussed if Scenario 2 is achieved.	<u>Scenario 3A</u> : Individual release locations should be visited multiple times to ensure adequate family representation at each site. <u>Scenario 3B</u> : This scenario represents the most risk to fry survival and broodstock viability. To mitigate the effects of this scenario parr broodstock collections from affected populations will be increased by 50 in 2020. Further mitigation may be available for affected populations by retaining spent age 3 broodstock in 2021.

COVID-19 Preparedness

Guidelines from the Center for Disease Control (CDC), state and federal agency will be followed to ensure the health and safety of all personnel. The COVID-19 pandemic is a dynamic situation with new information and guidelines published nearly daily. It is imperative personnel from all agencies remain in close contact in the event of new protocols or incidents affect our ability to maintain stocking activities. Personnel health and safety is of paramount concern.

COVID-19 Preparedness during fry loading, transport and release will include, but is not limited to, the following:

- Field vehicles will have supplies of hand sanitizer and either sanitizing wipes or spray bottles of isopropyl alcohol (>70%), paper towels, nitrile gloves, disposable face masks and first aid kits
 - Interiors surfaces of vehicles will be disinfected after each use; if feasible, leave vehicle windows down overnight to allow vehicle to air out
- Field personnel will limit their interaction with the public; use recommended PPE including face masks (disposable or freshly laundered cloth), safety glasses, latex/nitrile gloves will be used if public interaction is required
- Maintain physical distancing of >6'
 - Personnel will be assigned vehicles; no more than 1 person per vehicle
 - Agency personnel will work in groups no larger than 2
- If physical distancing of >6' cannot be maintained
 - Use recommended PPE including disposable face masks, safety glasses, latex/nitrile gloves
- Agency personnel will self-monitor their health, contact their supervisor in the event they develop symptoms consistent with COVID-19, receive either a positive or presumptive positive diagnosis of COVID-19
- Hatchery staff will wear nitrile gloves when weighing, loading, and off-loading fry
- Hatchery equipment will be disinfected per standard biosecurity protocols
- Hatchery equipment handled by non-FWS personnel in the field will be disinfected on site

STOCKING EMERGENCY AD HOC COMMITTEE**Terms of Reference***April 3, 2020***Issue Statement:**

In response to COVID-19 pandemic, the Atlantic salmon Implementation Team (IP) has formed an Ad Hoc Committee pursuant to the Collaborative Management Strategy (CMS) to conduct contingency planning for the 2020 stocking season that may be necessary to ensure the safety of all staff and comply with social distancing and other orders. The committee will focus on smolt stocking at Green Lake and fry stocking at Craig Brook. Other projects may be considered by the committee if deemed appropriate by the chair.

Charge:

Identify a range of contingency measures that may be necessary to ensure the safety of personnel during the Coronavirus pandemic. This includes:

- Identify the stocking strategy of smolts from Green Lake NFH, including differences in timing and methods necessary to ensure the safety of staff. Identify any other contingency measures needed if the scenario should get worse.
 - Identify the potential program impacts of the stocking strategy and any other scenario
 - Identify potential means, if any, to mitigate these impacts
- Identify possible scenarios, including best and worst case, for stocking of fry from Craig Brook NFH, including any differences in timing and methods necessary to ensure the safety of staff.
 - Identify the potential program impacts under each scenario
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Membership:

Denise Buckley, FWS, Chair
Oliver Cox
Keith McGilvray
Peter Ruksznis
Colby Bruchs
Jen Noll
Zach Sheller
Dan Kircheis
Dan McCaw

Deliverables: Initial report reflecting consideration of the charge to the Implementation Team by April 14, 2020



MAINE DMR – SEA RUN FISHERIES AND HABITAT

ATLANTIC SALMON FRY STOCKING PLAN --- Spring 2020 ---

The following stocking plan was developed by DMR in response to the Atlantic salmon Implementation Team (IP) request pursuant to the Collaborative Management Strategy (CMS) to conduct contingency planning for the 2020 fry stocking season amid the COVID-19 pandemic. The stocking plan provides alternatives for release in each drainage that minimize risk to Endangered Atlantic salmon populations and ensures the safety of all State, Federal, and NGO staff conducting essential stocking activities during the current public health emergency.

As directed by the DMR Commissioner (per agency staff meeting held 4/1/2020), DMR field staff are currently available for 2020 stocking activities while following existing Agency fieldwork and CDC guidelines to reduce risk of exposure to, and slow the spread of, the COVID-19 virus. Mitigation measures include, single user gear, limiting vehicle occupancy to the driver only, prohibiting direct contact of personnel and/or members of the public (no handshakes), maintaining 6 feet of distance from other individuals including the public at all times, disinfection of surfaces, use of hand sanitizer, and limiting the total number of personnel working together to pairs. Stocking activities in the Downeast region are typically accomplished by one regional DMR scientist and one USFWS employee traveling in separate vehicles. However, stocking could be accomplished by an individual staff member from either agency if necessary. Given the dynamic situation and changes in policies, further restrictions may be made at any time.

Contingency Plans:

The rapidly changing response to the COVID-19 pandemic may necessitate changes to staff availability should core stocking personnel from DMR or the USFWS become quarantined and/or ill thus unable to perform essential program functions. The following stocking contingency plans address three scenarios: (1) DMR and USFWS staff are both available to conduct stocking activities; (2) Only DMR staff are available to conduct stocking activities; (3) Only USFWS staff are available to conduct stocking activities. Trip level plans/logistics are provided for all scenarios (see Appendices A-C). Trip level plans include: fry numbers for each release location, UTM's of all stocking points, UTM's for access locations, and a travel itinerary to maximize stocking efficiency.

Scenario 1: DMR and USFWS staff are both available to conduct stocking activities

Under this scenario, stocking activities would occur under status quo; fry are to be released in the highest quality vacant habitat to maximize survival, increasing the likelihood of recapture of genetic family groups during broodstock collection, and maximizing freshwater production. Releases will occur throughout watersheds in broad geographic distribution to expose juvenile salmon to diverse environmental selection pressures.

Scenario 2: Only DMR staff are available to conduct stocking activities

Under this scenario, stocking activities would occur under status quo; fry are to be released in the highest quality vacant habitat to maximize survival, increasing the likelihood of recapture of genetic family groups during broodstock collection, and maximizing freshwater production. Releases will occur throughout watersheds in broad geographic distribution to expose juvenile salmon to diverse environmental selection pressures. *Note: This approach may require more daily trips to each river of origin as stocking activities will take more time to accomplish.*

Scenario 3: Only USFWS staff are available to conduct stocking activities

Under this scenario, stocking activities would be limited to a minimal number of locations; due to geographic unfamiliarity and lack of off-truck transport equipment, USFWS personnel are limited to stocking fry in locations in close proximity to road access. Where feasible, fry are to be released in vacant habitat near direct road access. ***Note: This approach is not recommended.*** However, in the event DMR scientists are unavailable to direct stocking due to COVID-19 related quarantine and/or illness, this stocking contingency plan provides USFWS personnel a limited number of locations with direct access where feasible to ensure all fry are released into their river of origin.

Program Impacts:

Scenarios 1 and 2 are status quo activities wherein the highest quality vacant habitat is stocked to maximize freshwater production as well as provide the greatest likelihood of recapture for the broodstock program at current resource levels.

Scenario 3 is a reduction in stocking activities that seeks to minimize impacts to freshwater production and broodstock program, while recognizing geographic unfamiliarity of staff and equipment limitations. Vacant habitat in proximity to road access is limited in both quality and quantity. Fry will be stocked in at least two productive locations where broodstock can likely be collected the following fall.

Broodstock collection efforts may take considerably more time and targets may not be met under this scenario. Remaining fry will be stocked in one or more high quantity mainstem habitat locations likely resulting in low survival and limited potential for recapture.

Personal protective measures:

Annual juvenile stocking is a critical program activity aimed at preservation of Downeast Coastal SHRU Atlantic salmon populations. As much as possible, fry stocking activities should be focused on distribution into quality rearing habitat that will provide the highest chance of survival. As stated above precautions will be in place to minimize exposure risk of both DMR staff and USFWS staff. DMR is committed to directing stocking activities as long as core staff avoid COVID-19 related exposure, quarantine and/or illness. Coordination between agency staff will be necessary to lay out basic logistics during off-loading to reduce exposure risk. Adequate disinfection of vehicles provides a safe space for personnel during travel. Additionally, requiring individual use of gear and vehicles will reduce exposure risk. Once fish are transported from CBNFH to river of origin for release, risk of exposure and/or transmission associated with stocking activities is reduced due to the remote setting and rare possibility of public interaction. Interaction among DMR and USFWS personnel can be extremely limited in the field using common sense precautions. Other precautions such as requiring a 'one-out policy' wherein only one staff person is allowed outside a vehicle at any time is feasible to further reduce exposure risk. The aforementioned steps, in combination with following CDC guidelines, will ensure the safety of all State, Federal, and NGO staff while allowing critical stocking activities to be completed during the current COVID-19 public health emergency.

Appendix B1:

2020 Fry Stocking Plan: Downeast Coastal Rivers SHRU Narraguagus, Pleasant, Machias, and Dennys

Trip level stocking plan/daily itinerary employed under;

Scenario 1: DMR and USFWS staff are both available to conduct stocking activities

NARRAGUAGUS RIVER

NG	20-Nov	5/13/2020	5/29/2020	73,255	176,782
NG	22-Nov	5/14/2020	5/30/2020	54,398	
NG	25-Nov	5/15/2020	5/31/2020	24,047	
NG	27-Nov	5/17/2020	6/1/2020	17,745	
NG	2-Dec	5/19/2020	6/2/2020	7,337	

Day 1: 87,423 fry

Mainstem: Hemlock Dam (57,488), 30-35-0 Landing (9,095), 28 Pond Outlet (12,790), Above Bracey (2,500)

Tribs: 35 Brook (5,550)

Day 2: 89,359 fry

Mainstem: Beddington Braids (55,884)

Tribs: Shorey Brook (5,189), Rocky Brook (2,070), Baker Brook (10,425), Little Narraguagus (5,424)

MACHIAS RIVER

MC	20-Nov	5/13/2020	5/29/2020	11,771	189,147
MC	22-Nov	5/14/2020	5/30/2020	21,294	
MC	25-Nov	5/15/2020	5/31/2020	97,094	
MC	27-Nov	5/17/2020	6/1/2020	43,995	
MC	2-Dec	5/19/2020	6/2/2020	14,993	

Day 1: 94,586 fry

Mainstem: WigWams (29,406)

Tribs: Libby Brook (8,620), Mopang → Eagle Rock (13,600), Horse Rips (18,900), 2nd Lake Outlet (24,060)

Day 2: 94,561 fry

Tribs: Chain Lakes Stream (34,340), Dead Stream (14,200), Holmes Brook (6,540), West Branch → 50-29-0 Landing (9,103), Rolford (5,428), 39-00-0 (11,200), Fletcher Brook (6,900), Dunning Brook (1,250), OFFLOAD New Stream (7,900)

DENNYS RIVER

DN	4-Nov	4/27/2020	5/13/2020	51,084	+ 154,000
DN	7-Nov	5/2/2020	5/18/2020	39,579	
DN	12-Nov	5/8/2020	5/24/2020	24,417	
DN	14-Nov	5/9/2020	5/26/2020	21,448	
DN	19-Nov	5/12/2020	5/28/2020	17,472	

Day 1: 91,000 fry

Mainstem: Robinson's Pit (30,469)

Tribs: Cathance – Flume (8,768), Marion Falls (3,776), Nowhere Rips (44,582) and Dead Stream (3,405)

Day 2: 63,000 fry

Mainstem: Stoddard Rips (34,335), Clark Rips (10,780)

Tribs: Cathance – Nowhere Rips (14,785) and Venture Brook (3,100)

Scenario 2: Only DMR staff are available to conduct stocking activities

Same trip logistics as Scenario 1. *Stocking densities will be increased at in large sub-reaches to reduce number of stocking locations.* USFWS loads truck, DMR scientist conducts all transport from hatchery to stocking location.

Scenario 3: Only USFWS staff are available to conduct stocking activities

Reduced stocking activities. 2 – 3 stocking locations per day. Off-truck stocking equipment provided to USFWS where necessary. Trip logistics by river below:

NARRAGUAGUS RIVER

NG	20-Nov	5/13/2020	5/29/2020	73,255	176,782
NG	22-Nov	5/14/2020	5/30/2020	54,398	
NG	25-Nov	5/15/2020	5/31/2020	24,047	
NG	27-Nov	5/17/2020	6/1/2020	17,745	
NG	2-Dec	5/19/2020	6/2/2020	7,337	

Day 1: 88,391 fry

Mainstem:

Hemlock Dam (42,156)

- Stocking point: UTM 573117; 4967786
- Access → From 30-00-0/CCC Road: UTM 572840; 4967611

Beddington Braids (41,046)

- Stocking point: UTM 573745; 4964981
- Access → From E. Beddington Lake Road: UTM 573745; 4964981

Tribs:

Shorey Brook (5,189)

- Stocking point: UTM 575112; 4965251
- Access → From E. Beddington Lake Road: UTM 575192; 4964382

Day 2: 88,391 fry

Mainstem: → Hemlock Dam (42,156), Beddington Braids (41,046)

Tribs: → Shorey Brook (5,189)

MACHIAS RIVER

MC	20-Nov	5/13/2020	5/29/2020	11,771	189,147
MC	22-Nov	5/14/2020	5/30/2020	21,294	
MC	25-Nov	5/15/2020	5/31/2020	97,094	
MC	27-Nov	5/17/2020	6/1/2020	43,995	
MC	2-Dec	5/19/2020	6/2/2020	14,993	

Day 1: 92,861 fry

Mainstem:

Route 9 (41,351)

- Airline Rips Campsite below Route 9
- Stocking point: UTM 591817; 4973085

Tribs:

Chain Lakes Stream (51,510)

- Below Route 9
- Stocking point: UTM 600846; 4977014

Day 2: 96,286 fry

Mainstem:

Crooked River Confluence (68,086)

- @ confluence
- Stocking point: UTM 590565; 4975857
- Access → Off 52-00-0 Road to end of Crooked River Road

Tribs:

Dead Stream (21,300)

- 58-00-0 Road Culvert
- Stocking point: UTM 594937; 4980698
- Access → from Route 9: UTM 599059; 4976281

Fletcher Brook (6,900)

- 42-00-0 Road Culvert
- Stocking point: UTM 585251; 4990164

DENNYS RIVER

DN	4-Nov	4/27/2020	5/13/2020	51,084	+
DN	7-Nov	5/2/2020	5/18/2020	39,579	
DN	12-Nov	5/8/2020	5/24/2020	24,417	
DN	14-Nov	5/9/2020	5/26/2020	21,448	
DN	19-Nov	5/12/2020	5/28/2020	17,472	

Day 1: 90,663 fry

Mainstem:

Robinson's Pit (40,304)

- Stocking point: UTM 638855; 4973510
- Access → from Route 86: UTM 638825; 4973320

Tribs:

Cathance – Nowhere Rips (44,159)

- Stocking point: UTM 631087; 4973831
- Access → landing/trailhead: UTM 630874; 4973518
- Access → from Route 86: UTM 630149; 4970258

Venture Brook (6,200)

- Stocking point: UTM 635201; 4973702
- Access → from Route 86: UTM 636333; 4972234

Day 2: 63,337 fry

Mainstem: Robinson's Pit (26,196)

Tribs:

Cathance – Nowhere Rips (30,041)

Dead Stream (7,100)

- Stocking point: UTM 625524; 4984513
- Access → from Route 191: UTM 625249; 4984942

Note: The Pleasant River is stocked by DSF staff under the direction of DMR. See reach level stocking plan below.

2020 DSF Fry Stocking Request per DMR allocation - Pleasant River Drainage

Stream	Subreach	2019 Redds	Habitat Units	Lifestage	Estimated Stocking Density	Estimated Number of Fry
Eastern Little River	All	0	82	UnFed Fry	250	20500
Pleasant River	Pleasant River Lake - Beech Hill	0	49	Eyed-Egg Planting	0	0
	Beech Hill - Ravine	0	124	Eyed-Egg Planting		0
	Ravine - Crebo	0	162	Eyed-Egg Planting		0
	Crebo - Farren	16	62	Eyed-Egg Planting		0
	Saco Falls - Artie's Bridge	13	372	UnFed Fry	0	0
	Clubhouse Rips	0	81	UnFed Fry	250	20250
	Newcomer's Rips	1	83	UnFed Fry	250	20750
	Ben Allen Rips	0	97	UnFed Fry	250	24250
Downtown Columbia Falls	0	63	UnFed Fry	175	11025	
Western Little River	All	0	57	UnFed Fry	250	14250
Total		30	1232		Total	111025

Appendix B2: 2020 Fry Stocking Plan: Penobscot Bay SHRU

Trip level stocking plan/daily itinerary employed under;

Scenario 1: CURRENT OPERATIONS

Description: Core USFWS/DMR personnel (no interns/volunteers) on split schedules to minimize contact. Staff from both agencies are available to conduct stocking activities.

Figure 1.

Priorities	East	North	Site Name	River	Assigned # fry	Max Fry	Take 638,847	total #
Highest #1	457334	5009702	Barrows Falls 97.90	Piscataquis	107,293	na	11-NOV, 15-NOV (107,293)	638,847
Highest #1	455235	4998994	foot stock #1 BRIDGE	Kingsbury str.	24,657	na	8-NOV, 13-NOV (98,627)	
Highest #1	457324	5002058	foot stock #2 RD SIDE	Kingsbury str.	24,657	na	SAME	
Highest #1	460517	4999912	foot stock #3 Telephone pole	Kingsbury str.	24,657	na	SAME	
Highest #1	461065	4999299	foot stock #4 coles corner	Kingsbury str.	24,657	na	SAME	
Highest #1	565182	5099570	Red Bridge 32.24	East Branch Matta	100,814	na	1/2 of 18-NOV (100,814)	
Highest #1	515949	5108827	Matagamon 76.80 camp site	East Branch Penob	100,815	na	1/2 of 18-NOV (100,815)	
Highest #1	515949	5108827	Matagamon 76.80 camp site	East Branch Penob	101,854	na	1/2 of 21-NOV (101,854)	
Highest #1	522185	5086624	Katahdin Brook 10.02	Wassataquoik	101,855	na	1/2 of 21-NOV (101,855)	
Highest #1			SAME	Wassataquoik	27,589	na	21-NOV (27,589)	
Highest #2	457334	5009702	Barrows Falls 97.90	Piscataquis	107,293	na	11-NOV, 15-NOV (107,293)	638,847
Highest #2	458634	5002100	Bingham Rd Thorn Brk 0.00	Kingsbury str.	98,627	na	8-NOV, 13-NOV (98,627)	
Highest #2	569597	5093467	Sno Mo 11.59	East Branch Matta	107,711	na	1/2 of 18-NOV (100,814) 25-NOV (6,897)	
Highest #2	515949	5108827	Matagamon 76.80 camp site	East Branch Penob	107,711	na	1/2 of 18-NOV (100,815) 25-NOV (6,897)	
Highest #2	528299	5110008	Matagamon rd X.XX	Seboeis	108,752	na	1/2 of 21-NOV (101,854) 25-NOV (6,897)	
Highest #2	522185	5086624	Katahdin Brook 10.02	Wassataquoik	108,753	na	1/2 of 21-NOV (101,855) 25-NOV (6,898)	
Highest #3	457334	5009702	Barrows Falls 97.90	Piscataquis	107,293	na	11-NOV, 15-NOV (107,293)	638,847
Highest #3	458634	5002100	Bingham Rd Thorn Brk 0.00	Kingsbury str.	98,627	na	8-NOV, 13-NOV (98,627)	
Highest #3	528299	5110008	Matagamon rd X.XX	Seboeis	215,423	na	18-NOV (201,629) 1/2 OF 25-NOV (13,794)	
Highest #3	515949	5108827	Matagamon 76.80 camp site	East Branch Penob	217,504	na	21-NOV (203,709) 1/2 OF 25-NOV (13,795)	

REDUCED - Normal Stocking Activity

APPROACH: Status quo: Mixed groups of fry will be CANOE STOCKED in high quality habitat to maximize survival. Fry densities have been increased to compress the number of individual release locations.

STAFF: CBNFH = 2 dedicated to transport/stocking

DMR STAFF = 1+ Biologists/SHRU

Status Quo, Limit Personnel Contact, Reduced USFWS Staff)

Stocking locations: DMR staff will CANOE stock locations as listed in Figure 1. when fry are at 85% development or more.

Description: A. USFWS Caretaker only, DMR available to conduct stocking activities
B. USFWS available to conduct stocking activities

Reduced Stocking Activities: NO CANOE STOCKING; SITES REDUCED 4 POINT STOCK SITES

APPROACH: Scenario 3A: In the absence of sufficient USFWS staff, unmixed groups of fry will be available for release to a reduced number of locations

Scenario 3B: In the absence of sufficient DMR staff, mixed, or unmixed, groups of fry will be released in vacant habitat near direct road access by USFWS personnel

*STAFF: CBNFH A. No available staff members
B. Minimum of 2 staff members*

*DMR A. 1+ Biologists/SHRU
B. no staff available*

Stocking locations: DMR or USFWS staff will POINT stock locations as listed in Figure 1. when fry are at 85% development or more.

4 large point stocking (ease of locations, point stock large sections of habitat)

USFWS caretaker will load fry for DMR and/or FWS staff at of hatchery.

**Appendix B3:
2020 Fry Stocking Plan: Merrymeeting Bay
Sheepscot River**

Trip level stocking plan/daily itinerary employed under;

Scenario 1: DMR and USFWS staff are both available to conduct stocking activities

Priorities	Easting	Northing	Site Name	River	Assigned Fry #	Reduced stocking	Take	
Highest	473995	4922697	Burnham Hill Rd.	Mainstem	2,850	5,400	14-Nov	27,750
Highest	452594	4896693	Rt. 126	Mainstem	7,620	17,000	4-Nov	
Highest	461088	4906299	Somerville	Mainstem	4,834	5,400	11-Nov	
High	476124	4924900	Herb Jackson	Mainstem	6,058	n/a	7-Nov	
High	455755	4906371	Windsor Station	West Branch	4,388	n/a	7-Nov	
Medium	441460	4897547	Togus Discgolf*	Togus Stream	2,000	n/a	4-Nov	
Alternative	442131	4898115	Barber Rd.*	Togus Stream	2,000	n/a	4-Nov	

*If time is limited, Togus- Barber Rd. can be stocked instead.

** All sites, with the exception of Rt. 126, should be stocked upstream of road crossing.

Normal Stocking Operations

(Scenarios Covered: Status Quo, Limit Personnel Contact, Reduced USFWS Staff)

5/5/2020 (based on USFWS calculations, subject to change) - One DMR staff will pick up fry from Craig Brook hatchery. DMR will stock Herb Jackson, Burnham Hill, Rt 126, and Togus-Disc Golf Course. Fry takes should be kept separate if possible.

5/11/2020 (based on USFWS calculations, subject to change) - One DMR staff will pick up fry from Craig Brook hatchery. DMR will stock Somerville and Windsor Station. Fry takes should be kept separate if possible. Fry takes should be kept separate if possible.

Reduced Stocking Operations

(Scenarios Covered: State and Federal Shutdown, Federal Shutdown, Limited Fieldwork)

Highest level priority sites should be the minimum number of sites to be stocked. As many sites should be attempted to be stocked as possible. Fry takes can be mixed if needed.

Scenario 2: Only DMR staff are available to conduct stocking activities

See Scenario 1.

DMR staff will need a minimum of one USFWS staff available to deliver fry to DMR staff outside of hatchery.

Scenario 3: Only USFWS staff are available to conduct stocking activities

Normal Stocking Operations

(Scenarios Covered: State Shutdown, COVID+ cases in both DMR staff)

USFWS staff is advised to stock locations as listed in Scenario 1-*Normal Stocking Operations* when fry are at 85% development or higher. Alternative Togus stocking site (Barber Rd.) should be used instead of Togus- Disc Golf Course site. If possible, keep fry takes separate.

Reduced Stocking Activities

(Scenario Covered: If State had been previously shut down, and notification of federal government shut down occurs)

USFWS staff is advised to stock locations as listed in Scenario 1-*Reduced Stocking Activities* when fry are at 85% development or higher. Alternative Togus stocking site (Barber Rd.) should be used instead of Togus- Disc Golf Course site. Fry takes can be mixed if needed.

Craig Brook National Fish Hatchery Load-out, Transport, and Release Protocols

Section 1. General protocols

Section 1a. General load-out protocols

Stocking vehicles are prepped prior to load-out of fry. Each vehicle carries either a single tank [with 15 cubes] or four 178 quart coolers [three cubes each] with a maximum capacity of 48 pounds of fry. Vehicle tank(s) are watered, cubes (if using) are examined for damage, oxygen tank and fuel levels checked and aerator function confirmed. Oxygen levels are set to between 0.5 and 1.0 lpm per stone; one stone per cooler and three stones per tank. Prior to adding fry to cubes even oxygen dispersal is confirmed. Any deficit or fault is corrected immediately. If deficit or fault cannot be corrected another vehicle is used. Once a vehicle is ready to receive fry load-out begins.

CBNFH track fry inventory from the eyed-egg stage through load-out by counting individual mortalities from each incubation tray; each tray starts with 6,500 eyed-eggs, with one 'short' tray holding the remainder of the group. Different load-out scenarios are used depending on the trip logistics. A sample count for each group is obtained by weighing a known number of fry; example, one tray with 6,200 fry weighing 3.1 pounds equates to 2,000 fry/pound. The total number of fry, and the associated weight is recorded on a field sheet. Fry are weighed on a large 250 pound capacity scale. Up to four five-gallon buckets with water are placed on the scale and tared. Fry from four trays are poured into each of the buckets, taring between each bucket. If additional fry are required for the trip fry from another group will be added in equal proportion to the four buckets to equal the desired total. The fry are then loaded into the cubes.

CBNFH personnel work with DMR biologists to determine the number of fry required for each stocking location. To ensure a broad distribution of fry throughout stocked habitats, fry from all spawn groups are combined if their individual development levels fall between 85% and 100%. For 2020 the targeted development levels are 85% and 90%; this will allow fry to be released at the earliest date possible but still permit some mixing of groups to occur. CBNFH personnel use trip level fry requirements as a guide for mixing and loading fry into the cubes. No more than four pounds of fry are placed in a single cube. The size of the fry, water and air temperature, transport time and length of stocking trip are considered when loading fry; densities may be reduced if deemed necessary.

Once fry are loaded cube lids are secured, oxygen dispersal and levels are confirmed, using a calibrated YSI ProODO or YSI Pro20; effort is made to ensure oxygen levels do neither drop below 100% saturation nor go above 150% saturation. Tanks or coolers are secured with ratcheting tie-downs.

Section 1b. General transport protocols

CBNFH personnel will carry a cellphone and have the number of the DMR representative they are to rendezvous with. Personnel transporting fry will procedure to either the stocking location or designated meeting location by the most expeditious route; attention will be given regularly to the amp meter, or other visible indicator in the cab of the vehicle that indicates the aerators are functioning. One stop each hour is required to check the temperature, oxygen, aerators, and status of the fry. Fry should be low in the cubes, with only a few individuals swimming up in the cube. Large numbers of fry in the water column, fry on their sides, or the fry appear grayish in color are signs of distress. Adjustments to oxygen settings can be made, but are generally not recommended unless the levels have dipped below 100% saturation. If significant signs of distress are noted CBNFH personnel will advise the DMR biologist and alternate stocking locations may be used.

Aerators are turned off during fry removal; care must be taken to ensure they are turned back on if another release location is being visited. At each stocking location fry are poured from each cube into watered five-gallon buckets; additional water is poured over and through the cube to facilitate fry removal. Fry may also be dipped from cubes into buckets.

Once all the cubes have been emptied they are set aside to allow personnel to capture any fry that may be loose in the tank/cooler. These fry are placed in a bucket at released. At this time the aerators are turned off, the oxygen valve is closed and the tanks are drained. Tanks or coolers are secured before leaving the site.

Section 1c. General Release protocols

CBNFH personnel will adhere to DMR release protocols, whether assisting DMR personnel or conducting stocking on their own to specified locations. CBNFH personnel may participate in either foot stocking or point stocking; CBNFH personnel will not participate in canoe stocking in 2020.

Section 2. Current Operations

Under our current operations the following modifications to general protocols have been made:

- CBNFH personnel will be split into two crews: one stocking crew (two people) and one hatchery operations (three people)
 - No interns or volunteers are anticipated at this time
- CBNFH will maintain >6' distance whenever feasible during load out and release; PPE will be worn at all times
- CBNFH personnel will be assigned a stocking vehicle; interior surfaces of the vehicle will be disinfected after each use
- CBNFH will not participate in canoe stocking

Section 3. Reduced Operations

Under a reduced operations scenario further modifications to general protocols and those in Section 2 will be made:

- A minimum of two CBNFH personnel are required to load fry
- Fry handling at the hatchery may be minimized
 - Weights may not be collected
- One CBNFH person will transport fry
- DMR personnel may be asked to assist with loading and/or transporting of fry

Section 4. No operations

Under this scenario there may be either no CBNFH or DMR personnel available to conduct stocking activities. This will cause even further restrictions in activities as those presented under general protocols and Sections 2 and 3.

- Fry handling will be minimized; no weights and minimal data recording
- DMR will conduct transport
- If no DMR personnel are available CBNFH will conduct all stocking activities, releasing fry into pre-arranged and easily accessible locations.