

**ALASKA STATE LEGISLATURE
HOUSE SPECIAL COMMITTEE ON FISHERIES**

April 12, 2018
10:02 a.m.

MEMBERS PRESENT

Representative Louise Stutes, Chair
Representative Jonathan Kreiss-Tomkins
Representative Geran Tarr
Representative Mark Neuman
Representative Mike Chenault

MEMBERS ABSENT

Representative Bryce Edgmon
Representative David Eastman

COMMITTEE CALENDAR

PRESENTATION: PIKE AS AN INVASIVE SPECIES

- HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

TOM BROOKOVER, Director
Division of Sport Fish (SF)
Alaska Department of Fish & Game (ADF&G)
Anchorage, Alaska

POSITION STATEMENT: Answered questions during the presentation on Invasive Northern Pike Control in Southcentral Alaska.

KRISTINE DUNKER, Coordinator
Regional Invasive Species Program
Division of Sport Fish
Alaska Department of Fish & Game (ADF&G)
Anchorage, Alaska

POSITION STATEMENT: Presented a PowerPoint on Invasive Northern Pike Control in Southcentral Alaska.

SCOTT KELLY, Director
Division of Commercial Fisheries
Alaska Department of Fish & Game (ADF&G)
Juneau, Alaska

POSITION STATEMENT: Answered questions during the presentation on Invasive Northern Pike Control in Southcentral Alaska.

ACTION NARRATIVE

[10:02:58 AM](#)

CHAIR LOUISE STUTES called the House Special Committee on Fisheries meeting to order at 10:02 a.m. Representatives Stutes, Kreiss-Tomkins, and Tarr were present at the call to order. Representatives Neuman and Chenault arrived as the meeting was in progress.

PRESENTATION: Pike as an Invasive Species

[10:03:46 AM](#)

CHAIR STUTES announced that the only order of business would be a Presentation: Pike as an Invasive Species by the Department of Fish and Game.

CHAIR STUTES clarified that two of the documents contained within the members packets were not provided (audio difficulties) affiliated with the presentation as follows: six-page document with the footnote: Source National Habitat Partnership; and the two-page document with the footnote: Source Catherine Cassidy and Eric Hubish, 2013. These documents, she explained, are for a general discussion as well as the committee and public's review.

[10:04:19 AM](#)

CHAIR STUTES advised members that she asked the Alaska Department of Fish & Game to give a presentation due to concern within the fishing community over invasive northern pike in Southcentral Alaska and the devastating effect it has had on all salmon populations and fishing opportunities. Although the presentation does not focus on a specific area of concern, she hoped the committee discussion would focus on the invasive pike predation in the Susitna drainage on sockeye salmon, which was a stock of yield concern. It seemed that allowing for more escapement when the state has not adequately addressed the issue of invasive pike devouring salmon smolt in rivers and lakes in

the Susitna drainage would not solve any problems. Chinook and coho salmon in the Susitna drainage area have also been heavily impacted by pike predation, she said.

10:05:34 AM

CHAIR STUTES emphasized that she would like to secure more funding or additional resources for ADF&G to fully address the eradication and suppression of invasive northern pike in that drainage to restore salmon stocks to a healthy status. The ADF&G has conducted active netting programs of northern pike in the Susitna drainage area; however, she offered her belief that the department could do more with additional support from the legislature. The ADF&G has provided two very useful documents covering pike predation on sockeye and effort to suppress invasive pike. She directed attention to the 55-page document titled "Shell Lake Sockeye Salmon Progress Report" and to the one-page document titled "Chelatna Lake Northern Pike Suppression Project." In the one-page document the department estimated the elimination of 958 northern pike in the Chelatna Lake will result in 13,229 more returning sockeye throughout the 7-year life cycle of those pike. She remarked that it was staggering how removal of invasive northern pike could so drastically increase the numbers of returning salmon to the system.

10:08:28 AM

TOM BROOKOVER, Director, Division of Sport Fish (SF), Alaska Department of Fish & Game (ADF&G), Alaska Department of Fish & Game, introduced himself and his team.

10:10:21 AM

KRISTINE DUNKER, Coordinator, Regional Invasive Species Program, Division of Sport Fish, Alaska Department of Fish & Game, began a PowerPoint on Invasive Northern Pike Control in Southcentral Alaska. She stated that northern Pike were predatory fish that thrive in shallow, weedy habitat and are at the top of the food chain. She related that invasive northern pike can be significant predators of salmonids or other species that also use this habitat.

MS. DUNKER stated that northern Pike were opportunistic ambush predators who eat everything: ducklings, mice, invertebrates, and even each other. Studies have shown that juvenile salmon were targeted first if they are available, she said. The

northern pike's feeding strategy was to hide in weedy areas, wait for prey to swim by, quickly strike and then devour its prey.

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MS. DUNKER turned to slide 4, titled "Walleye and northern Pike: Boost or Bane to Northwest Fisheries?" Although the pike's striking behavior makes them a popular sport fish, the negative impacts have arisen when pike become established in waters where they are not native sport fish.

MS. DUNKER directed attention to slide 5, titled "Northern Pike Range," which depicted a map of Alaska showing the range of northern Pike. She stated that pike were native species throughout most of Alaska. She directed attention to the shaded and hashed area that showed the native range and the red area [primarily in Southcentral Alaska] that showed where invasive northern pike have been introduced.

MS. DUNKER turned to slide 6, titled "Invasive Species," which read, in part, as follows [original punctuation provided]:

Invasive Species: a species that has been introduced to an environment where it is non-native, or alien, and whose introduction causes environmental or economic damage or harm to human health.

[10:13:26 AM](#)

MS. DUNKER turned to slide 7, which showed a photograph of pink salmon fry in the stomach contents of a northern pike taken from Alexander Creek. She stated that as a top predator, invasive pike could potentially eliminate entire populations of salmonids when they are introduced in important salmonid rearing habitat. In waters that provide excellent habitat conditions for pike, such as shallow, weedy, slow-moving water, pike will overlap rearing sockeye, coho, Chinook, and Rainbow trout that rear in shallow lakes. She pointed out the predation levels on these species has typically been very high in some areas of the Mat-Su, for example, in Alexander Lake and Alexander Creek in the Susitna River drainage area. Waters that provide more mixed habitat consisted of drainages with shallow, vegetated sloughs and swampy areas combined with areas of deep water or fast river channels. Small fry can avoid predation in areas that do not provide optimal pike habitat, and pike have a reduced impact on salmon populations in mixed habitat. She offered a good example

of this as the Deshka River since pike do not really thrive in areas with deep, glacial, or high flow without much submerged vegetation. Pike tend to use deeper or high flow streams primarily as movement corridors, if at all. She said the predation rate on salmon fry tends to be very low in these areas, which was true in the East Side of the Susitna River drainage area and in the Talkeetna Mountains.

[10:15:21 AM](#)

MS. DUNKER directed attention to slide 8, "Pike Suppression," to a map. Invasive northern pike were widely distributed in Southcentral Alaska from the Northern Cook Inlet Management Area to the northern Kenai Peninsula. She pointed out that the drainages depicted in red on the map indicate areas where pike have been well established and the drainages in yellow were areas not known to have pike populations; however, these areas were considered vulnerable because they provide ideal habitat conditions for pike. She reported that the ADF&G has confirmed invasive pike in well over 120 individual waterbodies associated with these drainages.

MS. DUNKER said that in the past decade, the department has been steadily chipping away at the invasive northern pike problem. The department has successfully eradicated pike from some lakes in the Anchorage area, the Kenai Peninsula, and Yakutat using the fish pesticide rotenone.

[10:16:06 AM](#)

MS. DUNKER turned to slide 9, "What is Rotenone?" which read as follows [original punctuation provided]:

Extract of tropical "bean family" plants

Used by indigenous cultures to collect fish

Used to manage fish in U.S. since 1930s

Easily absorbed through gill membranes

Acts by inhibiting cell respiration

Safe for mammals and birds at fish management concentrations

Only proven and feasible tool for pike eradication in Southcentral Alaska

MS. DUNKER identified rotenone as a highly-regulated restricted-use pesticide for fisheries management. She reviewed the bullets on slide 9 clarifying that rotenone does not enter groundwater. She said the division used rotenone in extremely low concentrations, so it has not been harmful to people near the treatment areas. The highlighted bullet on slide 9 stated it was the only proven and feasible tool for pike eradication in Southcentral Alaska.

[10:17:15 AM](#)

MS. DUNKER directed attention to slide 10, "Rotenone Permitting Process," which read as follows:

Public Scoping Process:
Alaska Department of Environmental Conservation:
Pesticide Use Permit; and
30-day public commenting period.

NEPA Process: Environmental Assessment/ FONSI:
30-day public commenting period; and
Review and approval done by USFWS.

Alaska Department of Natural Resources: Special Use Permit

Alaska Department of Fish and Game: Fish Transport Permits

Alaska Board of Fisheries Approval (AS 16.35.200)

MS. DUNKER explained that the ADF&G must acquire a variety of permits and approvals prior to any rotenone treatment. It typically has taken approximately one year to obtain the necessary permits, she said. She reviewed the bullets on slide 10. She said to date the division's rotenone projects have been funded through grants. She related that the federal funding triggers a NEPA Process, which requires the ADF&G to prepare an environmental assessment document, along with public comment. The USF&WS has issued a finding of no significant impact (FONSI) on all the projects thus far, she said.

[10:18:18 AM](#)

MS. DUNKER directed attention to slide 11, "Rotenone Treatment Step by Step," which read, in part, as follows [original punctuation provided]:

- Monitor the physical and biological environment
- Calculate rotenone quantity
- Gillnet pike
- Post signs and stage equipment
- Deploy caged test fish
- Conduct treatment
- Monitor caged test fish
- Deactivation
- Monitor rotenone degradation
- Assess treatment success
- Restore the fishery

MS. DUNKER said that the permitting process requires an extensive field process, as shown in photographs on slide 11. Although she would not get into the details on each of the steps, the point she wanted to make was that significant work happens in each of these projects, including data collection. These projects generally take multiple years to complete, she said.

[10:18:37 AM](#)

MS. DUNKER turned to slide 12, "Strategic Planning," which read, in part, as follows [original punctuation provided]:

Prioritization Process
Criteria based on:

Threats to fisheries
Habitat significance
Watershed characterization
Cultural significance
Economic impacts
Feasibility

Pike committee meets every two years to update the
priority list

Prevent Spread

MS. DUNKER indicated that rotenone projects were expensive to complete but were not considered the right tool for all waterbodies, especially in areas that were highly

interconnected, such as the Susitna River drainage system. Along with weighing the feasibility of conducting a successful rotenone treatment, the ADF&G also uses a process to prioritize its efforts of invasive pike eradication projects within the Division of Sport Fish.

MS. DUNKER stated that the ADF&G has tried to target its work in areas where it will have the most success to contain the problem and to prevent pike from spreading to other waters.

[10:19:17 AM](#)

MS. DUNKER directed attention to slide 13, "Rotenone Projects 2008-2017," listing projects in the Kenai Peninsula and the Anchorage Area:

Kenai Peninsula

Arc Lake
Scout Lake
Stormy Lake
Union Lake
East Mackey Lake
West Mackey Lake
Derks Lake
Sevena Lake
Loon Lake
Soldotna Creek

Anchorage Area

Cheney Lake
Sand Lake
Otter Lake

[10:19:36 AM](#)

MS. DUNKER directed attention to slide 14, "Soldotna Creek," which read, in part, as follows [original punctuation provided]:

Soldotna Creek Treatment Areas
Area 1

Union Lake, West Mackeys Lake,
East Mackeys Lake, Derks Lake

Treatment Timing: 2014

Sevena Lake, Tree Lake,
Mainstem of Soldotna Creek
Treatment Timing: 2016 and 2017

Native Fish Relocation effort from
Area 2 to Area 1 in 2015

MS. DUNKER offered to briefly highlight the largest and most expensive project to date: the Soldotna Creek Treatment Areas. The treatment in Soldotna Creek, a tributary to the Kenai River, has really been about prevention. Although the Kenai River does not contain habitat that pike thrives in, the department has been concerned that pike might temporarily move through the river to access and establish in other vulnerable Kenai tributaries such as the Moose River coho where 45 percent of the Kenai River coho production occurs. This project involved breaking the Soldotna Creek drainage into two sections and systematically treating them over the course of four years. The first section treated in October 2014 did not contain any fish except invasive pike. Native fish were in the second section, so a significant part of the project involved rescuing as many native fish as possible and re-establishing these populations in the first treatment area.

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MS. DUNKER turned to slide 15, "Soldotna Creek Treatments," consisting of photographs showing field work. This project was by far the most complicated series of rotenone treatments completed and involved applying rotenone in a variety of ways, including by helicopter, she said. In 2014, the treatment projects began and were completed last summer. In total the ADF&G treated just shy of 500 acres of lakes, 150 acres of wetlands, and 20 miles of Soldotna Creek and its tributaries.

MS. DUNKER turned to slide 16, "Post Treatment Evaluation," to photographs of field treatments and post-treatment evaluations. Throughout the entire process, the division has been monitoring the treated lakes using gillnets or water samples to be certain the invasive pike have been eradicated. The division has not yet finalized these evaluations; however, it appeared as though the treatments have been successful.

[10:21:27 AM](#)

MS. DUNKER turned to slide 17, "Native Fish Rescue/Restoration 2018-2017," to photographs of field work, including lake stocking and electrofishing. She related one satisfying aspect of the project has been to restore the native fish populations throughout the Soldotna Creek Drainage lakes. In 2015, the division conducted field work in areas it had not yet treated, relocating over 91,000 native fish to assist in the recovery of the native fish population. This has resulted in sport fishing in these lakes and some fishermen also reported seeing loons nesting for the first time in many years.

[10:22:13 AM](#)

MS. DUNKER turned to slide 18, "Current Status of Kenai Peninsula Pike Waters," to a photograph of invasive pike and maps of the Cook Inlet area. She said that the division was close to eradicating invasive pike from all Kenai Peninsula waters in which the division had known and confirmed fish populations, except for a series of lakes in the Tate Road Lakes area. She said the division plans on treating those lakes this fall, noting the division's largest concern has been the proximity of these lakes to anadromous waters. It would be easy for the invasive pike to re-seed other waters on the Kenai Peninsula and the division's goal is to prevent that from happening, she said.

[10:22:59 AM](#)

MS. DUNKER turned to slide 19 to a map of Mat-Su/West Cook Inlet, Anchorage, and upper Kenai Peninsula areas. She said if the current eradication treatments are successful and barring any new invasive pike discoveries on the Kenai Peninsula, this region could be pike free for the first time in four decades. She characterized this as a huge milestone for the division. The next area the division would focus on would be containment, eradication - where possible - and suppression of invasive pike in the Mat-Su valley and the west side of Cook Inlet.

[10:24:23 AM](#)

MS. DUNKER turned to slide 20, "Alexander Creek Pike Suppression," with map and graph, which read, in part, as follows:

Susitna River tributary

Very productive Chinook salmon fishery prior to
2000

Pike in the lake for decades
Discovered in lower river in late 1990s

King numbers crashed
Other systems were thriving

All fisheries now closed

MS. DUNKER, referring to the map on slide 20, said the Susitna River drainage area presented a very different situation than the Kenai Peninsula. For one thing, the watershed was the size of Indiana, so a rotenone application would not provide the long-term eradication in connected waters because the invasive pike would eventually find their way back.

MS. DUNKER related the most effective approach would be to contain the problem and prevent pike from spreading to other waters since invasive species prevention has been the most efficient solution. She indicated that effective outreach and education on this topic was critical and the division hopes wrap up its educational efforts in the Mat-Su valley soon.

[10:24:08 AM](#)

MS. DUNKER said the division will also be conducting surveys to evaluate the water bodies for early detection of invasive pike distribution. She said the division will eradicate invasive pike populations where it is deemed feasible to do so in high priority areas and would continue to work to suppress invasive pike populations.

[10:24:23 AM](#)

MS. DUNKER said that the division has been actively engaged since 2011 on treatment in Alexander Creek, a tributary of the Susitna River. She clarified that this was not an eradication program because the system was too interconnected for rotenone treatments to successfully eradicate the invasive pike; however, the division has been working to reduce the abundance of pike in this area. Prior to 2000, Alexander Creek was one of the most productive Chinook salmon producing rivers in Southcentral Alaska. Directing attention to the red circle around Alexander Lake on the map insert, she reported that pike were introduced to Alexander Lake in the 1960s. Directing attention to the red

oval on the map insert on the side, she said it took a few decades for the invasive pike to disburse to the Alexander River corridor to establish in the lower river where they were first discovered in the late 1990s.

MS. DUNKER stated that following the invasive pike being established in the lower river, Chinook salmon numbers declined below escapement levels. This came at a time when other nearby Chinook salmon populations were thriving, which provided strong correlative evidence to show that the declining numbers in Alexander Creek were due to invasive pike. The fisheries on Alexander Creek were now closed as well as the many supportive businesses in the area. She estimated the economic loss as being in the multiple millions of dollars.

[10:25:46 AM](#)

MS. DUNKER directed attention to slide 21, "Alexander Creek Pike Suppression," with photos and bullets, which read in part as follows:

Goal:

Drive down pike abundance to allow increased survival of juvenile salmonids

Reduce pike in side-channel sloughs with gillnets

During pike spawning

Field crews target ~60 sloughs

Annual effort (>19,000 pike removed since 2011)

Surveys to evaluate juvenile salmonid abundance

Minnow trap surveys

Pike stomach content analysis

MS. DUNKER said that in response to the Chinook salmon low returns, the division has been implementing its northern pike Suppression Program to try to increase Chinook salmon productivity in the system. Each May, during the pike spawning, the division gillnets about 60 side-channel sloughs in Alexander Creek until they are no longer catching consistently catching pike. She reiterated the goal is to drive down pike abundance to allow the increased chance of survival for juvenile salmonids rearing in the system. The ADF&G plans on continuing its efforts annually and to date the division has removed over 19,000 pike through this project and several more thousand in preliminary work. In addition to netting, the gill crews also

conduct surveys to evaluate juvenile salmonid populations as well as assessing pike stomach contents throughout the creek with promising results.

10:26:30 AM

MS. DUNKER directed attention to slide 22, "Alexander Creek Pike Suppression," consisting of a map and chart of Adult Chinook Salmon Returns from 1979 through 2015. When the project began in 2011, the division was only seeing juvenile salmonids in the lower reaches of Alexander Creek; however, over the past few years, the division using minnow traps has documented juvenile salmonids in pike stomachs further and further upstream. Currently the division has found evidence of juvenile salmonids, including Chinook, in pike stomachs in all sections of the creek upstream to Alexander Lake. The division has also seen an increasing trend in the number of adult Chinook salmon returning to Alexander Creek. She focused on the arrowed map and noted the division has had favorable results in some sites and it would continue its efforts.

10:27:11 AM

MS. DUNKER turned to slide 24, "Susitna Waters with Active Netting Programs," consisting of a photo of a pike in a net dated 6/12/2002, which read as follows:

Alexander Creek
Deshka River
Shell Lake
Chelatna Lake
Whiskey Lake
Hewitt Lake

MS. DUNKER reviewed slide 24, noting the division has been netting the Deshka River every few years to determine pike populations in the lower sloughs of the river. She reported that the Division of Commercial Fisheries and the Cook Inlet Aquaculture Association have also conducted active pike suppression programs in lakes and lake outlets in the Yentna River drainage system, including Shell Lake, Chelatna Lake, Whiskey Lake and Hewitt Lake. These projects have a goal of increasing survival of out-migrating sockeye smolts. These projects have also included studies of pike diets and the data has indicated that pike diets were comprised primarily of sockeye salmon during the out-migration timeframe. She said the suppression programs have been trying to mitigate this.

Collectively there have been many organizations working on invasive pike problems, including ADF&G, the Cook Inlet Aquaculture Association, the US Geological Survey, the University of Alaska Fairbanks, the US Fish & Wildlife Service, and Tanana Tribal Conservation District. However, the agencies were still learning about the impacts invasive pike have on salmon populations. She characterized it as a complex problem and the severity of impact varies by individual lake and river systems. She said this presentation has demonstrated the extent of the pike problem in Southcentral Alaska, but pike were likely just one of the many factors contributing to salmon population dynamics in the Susitna River and elsewhere.

[10:28:37 AM](#)

MS. DUNKER directed attention to slide 24, "Regional Pike Priorities by Project Scope," to a table listing Eradication Projects, Suppression Projects, Monitoring Projects, and Research Projects.

MS. DUNKER said that within the ADF&G Sport Fish Program that she oversees, the division has prioritized its projects based on where it expects to find invasive pike or in the case of prevention, where invasive pike might be a primary factor. As the Invasive Northern Pike Control Program transitions within the Division of Sport Fish to the Northern Cook Inlet Management Area, the division has been looking ahead to other eradication projects in the Mat-Su region. The division has been actively seeking funding for the pike eradication in several lakes in the Cottonwood Creek drainage, and for a rotenone project in the lower Fire Lake in Eagle River in the near future to remove its invasive pike population. Both of these projects would aid the prevention of invasive pike from spreading via Knik Arm into vulnerable waters.

[10:29:20 AM](#)

MS. DUNKER reported that the division would also be conducting an initial assessment this summer to begin a new invasive pike suppression program in the Threemile drainage on the west side of Cook Inlet. She related that the division recently hired a new invasive species biologist based in Palmer to lead these efforts, who will first initiate a standardized survey to clarify the invasive pike distribution in the Mat-Su region and facilitate planning of future invasive pike control efforts in the region.

[10:29:44 AM](#)

MS. DUNKER turned to the final slide, slide 25, "Thank you," with sponsor logos, which read as follows [original punctuation provided]:

Funding and support provided by:

Alaska Sustainable Salmon Fund
Kenai Watershed Forum
Kenai National Wildlife Refuge
USFWS Kenai Field Office
USFWS Conservation genetics Lab, Anchorage
Mat-Su Borough
State of Alaska

MS. DUNKER reported, besides salaries of staff who permanently work on this project, the efforts within the Division of Sport Fish have cost approximately \$3.8 million thus far. She expressed gratitude for the support of the ADF&G's partners and funding agencies, in particular, the Alaska Sustainable Salmon Fund, which has provided grants originating from the US Department of Commerce, National Oceanic and Atmospheric Administration (NOAA). She estimated that it has contributed approximately \$3.4 million in support of the ADF&G's Division of Sport Fish and Division of Commercial Fisheries efforts as well as the Cook Inlet Aquaculture Association for its pike suppression efforts.

MS. DUNKER said the division was also very appreciative of the 2011 funding from the legislature for the Alexander Creek suppression efforts. She said the \$135,000 annual appropriation has funded the entire suppression program.

[10:30:46 AM](#)

CHAIR STUTES related her understanding that invasive pike were clearly a significant predator of sockeye, coho and Chinook salmon in the Susitna drainage area. She asked whether that was an accurate statement.

MS. DUNKER answered yes; that the level of impact was significant in areas where the salmon cannot easily avoid pike, but impact was not as significant in deeper waters.

CHAIR STUTES asked whether that could be a large contributor to the stock of yield concern.

[10:32:06 AM](#)

CHAIR STUTES asked for further clarification on project funding, which she understood was related to Dingell-Johnson funding and was limited to sport fish areas. She asked whether it would be helpful if the state would provide additional funding for the eradication efforts in commercial fishing areas.

[10:33:10 AM](#)

SCOTT KELLY, Director, Division of Commercial Fisheries (DCF), Alaska Department of Fish & Game (ADF&G), answered that additional funding would be welcomed and efforts would be taken in conjunction with Ms. Dunker's program.

CHAIR STUTES said that it appeared that with the huge success on the Kenai Peninsula that it would be a "win-win" deal.

[10:33:52 AM](#)

REPRESENTATIVE NEUMAN asked Ms. Dunker if the smolt found in pike stomach contents were normal size and strength or if they were stunted due to the environment.

MS. DUNKER, in response to Representative Neuman's question on the size of the smolt found in pike stomachs, answered that it was hard to say. She said that she was unsure if the division had noticed any substantial change in sizes of the prey. The division had noticed the size of pike decreasing over time; however, she could not speak to the size of the fry or salmonid.

[10:35:21 AM](#)

REPRESENTATIVE NEUMAN queried why rotenone was not being utilized in Alexander Lake.

MS. DUNKER, in response to Representative Neuman, said that Alexander Lake was a very complex system. She characterized it as being like flying over the expanse of the Everglades. She said the size made it very difficult for rotenone effectiveness as compared to using the fish pesticide in a closed lake system. It would be easy for pike to hide since it can detect rotenone and get into areas where the rotenone might not penetrate well, she said. She offered her belief that rotenone would help reduce to invasive pike, but it would not likely eradicate the them. She thought it would be costly and pike would likely find their

way back into the lake via Alexander Creek. Thus, the entire system would need to be treated, she said. She stated that all the work put into the suppression efforts to increase the salmonid productively would require a large rescue effort or that population could potentially suffer mortality. She summarized that such a program would be costly without a high level of success to eradicate pike.

[10:36:47 AM](#)

REPRESENTATIVE NEUMAN referenced [slide 8], a map of Cook Inlet and the affected streams shown in red. The only [state] funding for pike suppression was from capital funding dollars that he was able to secure, he said. He pointed out the Dingell-Johnson Act funding comes from sport fishing license fees (audio difficulty). He pointed out that the Mat-Su region has eight of 12 salmon stocks of concern.

[10:37:53 AM](#)

CHAIR STUTES asked whether the invasive species Elodia contributed to pike habitat.

MS. DUNKER said that the Department of Natural Resources (DNR) oversees Elodia and that studies have not been done to measure the association; however, Elodia has the capacity to change habitat and slow down waterflow, which potentially decreases favorable habitat conditions for salmon fry and increases habitat conditions for pike spawning areas. She acknowledged it was not likely a good thing, but the division does not have quantitative data to really define the relationship at this time.

[10:38:54 AM](#)

MR. KELLY said Ms. Dunker covered it very well and he did not have anything to add.

[10:39:04 AM](#)

REPRESENTATIVE KREISS-TOMKINS said he was excited to see the progress the department has made, and he was particularly interested in eradicating Elodia by "nipping it in the bud." He referred to [slide 11], which explained the step-by-step process of rotenone treatment, to the last bullet "restore the fishery." He indicated his support for this effort but wondered how it

would work if rotenone were to kill all the fish in the watershed. He assumed salmon smolt would also die.

MS. DUNKER answered that eradication efforts would be specific to the project area and the treatment taken. She explained that the department could restore a small closed stock lake with hatchery fish. Further, the way the rotenone would be applied, wild salmon living downstream of the treatment area would not be affected. Typically, the division does what it can to rescue native fish that are present. She recalled the 2010 Stormy Lake treatment projects, noting and that lake still had Arctic char and other species at the time. The division spent the preceding months trying to move as many native fish as possible, including holding some in net pens, and collecting egg cases of the brood stock and raising them in hatcheries to ensure that the genetics were preserved. After the rotenone had degraded entirely, which was confirmed by testing, the fish were returned. She said the Arctic char and other native fish were doing quite well. She stated that with the Soldotna Creek project one area did not have fish, but the second area had native fish, so the division took a year in between to relocate the fish and mitigated it by neutralizing the rotenone downstream of the treatment area.

[10:41:53 AM](#)

REPRESENTATIVE KREISS-TOMKINS asked whether ADF&G would be giving an additional update on Elodia.

CHAIR STUTES answered no, not at this time.

REPRESENTATIVE KREISS-TOMKINS related he has read some of Toby Schwoerer's work [Senior Research Professional] at ISER [Institute of Social and Economic Research; University of Alaska Anchorage] on Elodia that highlighted the enormous costs if Elodia was not eradicated. He asked if the department could speak to eradication efforts and for information on funding and if additional Dingell-Johnson funds could be directed at this invasive species.

MS. DUNKER offered that this question would best be directed to the Alaska Department of Natural Resources. She said ADF&G was not in charge of the Elodia projects although it does assist with eradication work, including herbicide treatments. The DNR has been working on the Kenai Peninsula, the Anchorage bowl, and in Fairbanks. She related her understanding that the funding has come from a wide array of sources but DNR could provide more detail.

[10:43:48 AM](#)

REPRESENTATIVE KREISS-TOMKINS related his understanding that DNR does not have funding to meaningfully work on the Elodia issue. He asked whether it has ever been discussed to have ADF&G direct Dingell-Johnson funding to work jointly with DNR to eradicate Elodia.

MR. KELLY answered that has not come to his attention. He deferred to Ms. Dunker and Mr. Brookover.

[10:44:57 AM](#)

MR. BROOKOVER acknowledged that DNR has the authority to deal with invasive aquatic plants in fresh water. The Alaska Department of Fish & Game (ADF&G) has authority over aquatic invasive fish species. However, the Division of Sport Fish has an invasive species program headed up by Tammy Davis, who works with counterparts in DNR. The ADF&G has a MOU [Memorandum of Understanding] with DNR that addresses coordination of duties. He recalled that ADF&G has helped DNR on specific eradication projects. While Dingell-Johnson funds are constrained to projects that directly benefit anglers, these funds could be utilized for Elodia eradication since Elodia infestation has broad impacts, including impacts to sport fishing. A number of agencies could become involved, he suggested. The Dingell-Johnson funds could be used where a clear nexus with sport fisheries occurs, he said. Dingell-Johnson funds are currently fully allocated and therefore it would require reductions or cuts to other areas in order to shift funds to Elodia eradication.

REPRESENTATIVE KREISS-TOMKINS commented that it was helpful. He expressed his gratitude for the ADF&G's work on invasive northern pike, Elodia and D. vex [Didemnum vexillum] problem in Sitka's harbor.

[10:47:51 AM](#)

CHAIR STUTES inquired about Shell Lake sockeye salmon report. It appeared that in 2007, 80,600 smolt were released yet only 21,000 salmon escaped. She surmised that the invasive pike were responsible.

MR. KELLY believed that Chair Stutes was referring figure 2 on slide 5 of the Shell Lake Sockeye Salmon Progress Report.

CHAIR STUTES answered yes.

MR. KELLY agreed that the survival rates for pre-smolt fall stocking to spring smolt stocking do vary quite a bit; however, clearly there was a pike nexus. Pike do predate heavily on salmonids, he said.

[10:49:15 AM](#)

REPRESENTATIVE NEUMAN relating to the lack of smolt escapement, and the low numbers of spawning salmon, offered his belief that the department has tried to hit the mid-range on its escapement goals to counter the mortality. He related his understanding that this effort has been supported by the Board of Fisheries.

CHAIR STUTES thanked the presenters for the presentation.

[10:50:36 AM](#)

ADJOURNMENT

There being no further business before the committee, the House Special Committee on Fisheries meeting was adjourned at 10:50 a.m.